Virtual Design and Construction Institute

dba cadteacher

Catalog of Courses

1/1/2013 - 12/31/2013

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Mission & Objectives

The mission of Virtual Design and Construction Institute is to offer quality campus based and online certificate programs, to motivated adults who are able to work independently and in small groups and who may benefit from intensive instruction in various CAD, BIM and other Virtual Design software programs.

The Virtual Design and Construction Institute will provide students with an up-to-date curriculum which is both intellectually challenging, practical and appropriate for the professional and trades environments.

Part of our mission is to convey to students the importance of continuing education. We endeavor to sustain our course offerings by developing an operational environment that is professionally managed, competently supervised, continually evaluated and appropriately modified thereby providing course curriculum material that are kept current. Virtual Design and Construction Institute provides onsite and online AutoCAD, Revit, Autodesk Inventor, AutoCAD Civil 3D, Navisworks, 3ds Max, SketchUp and other Construction Industry-targeted software training.

In all programs and services, the Virtual Design and Construction Institute respects the value of diversity among students and faculty. Therefore, we encourage the participation of individuals from all nationalities, races, and colors.

Virtual Design and Construction Institute - Purpose Statement

The special character of this institution is reflected in its commitment to the study of Virtual Design and Construction (VDC) software, including CAD/BIM/Digital Prototyping and Visualization software programs. The purpose of the institution is to help students acquire competency in the use of Computer Aided Design, Building Information Modeling and other Virtual Design and Construction software.

Virtual Design and Construction Institute – Objectives

All programs at Virtual Design and Construction Institute have a set of stated objectives which continue to evolve as the sophistication of the design software evolves. Currently, the institution's objectives are to:

- Provide students with training in the use of architectural, structural, mechanical/electrical/plumbing and civil design software.
- Provide students with a professional atmosphere conducive to learning.
- Assure programs are delivered by highly qualified and experience instructors.
- Assure students obtain the skills and knowledge needed to improve their productivity and enhance their credibility in the workplace.

Student Records and Transcripts

The policy of this institution requires that student records for all students are kept for five years. All records are maintained in compliance with sections 94803 and 94877 of the California Education Code – Referenced Sections 94885, 94900 and 94900.5 of the Education Code. The student records

will be maintained in the State of California. In addition to permanently retaining a transcript as required by section 94900(b) of the Code, the institution shall maintain, for a period of five years, the pertinent student records described in Section 71920 from the student's date of completion or withdrawal. The institution shall maintain records relating to federal financial aid programs as provided by federal law. A record is considered current or three years following a student's completion or withdrawal. A record may be stored on microfilm, microfiche computer disk or any other method of record storage only if all of the following apply: (a) the record may be stored without loss of information or legibility for the period within which the record is required to maintained by the Education Code; (b) for a record which is current, the institution maintains functioning devices that can be immediately reproduce exact, legible printed copies of stored records. The devices shall be maintained in a reasonably close proximity to the stored records at the institution's primary administrative location in California. For a record that is non longer current, the institution shall be able to reproduce exact, legible printed copies within two business days. VDCI will have personnel scheduled to be present at all times during normal business hours who know how to operate the devices and can explain the operation of the devices to any person authorized by the Act to inspect and copy records. Any person authorized by the Act to inspect and copy records shall be given immediate access to the document reproduction devices for the purpose of inspecting and copying stored records and shall, upon request, reimburse the institution for thee reasonable cost of using the institution's equipment and material to make copies of a rate not to exceed ten cents per page. VDCI shall maintain a second set of all academic and financial records required by the Act at a different location unless the original records, including records stored pursuant to the aforementioned paragraph are maintained in a manner secure from damage or loss. An acceptable manner of storage would include fire-resistant cabinets.

All records that the institution is required to maintain by the Act or this chapter shall be made immediately available by the institution for inspection and copying during normal business hours by the Bureau and any entity authorized to conduct investigations.

If VDCI closes, the institution and its owners are jointly and severally responsible to arrange at their expense for the storage and safekeeping in California of all records required to be maintained buy the Act and this chapter for as long as those records must be maintained. The repository of the records shall make these records immediately available for inspection and copying, without charge except as allowed under the above-listed paragraph during normal business hours by any entity authorized by law to inspect and copy records.

Privacy Act

It is this institution's intent to carefully follow the rules applicable under the Family Education Rights and Privacy Act. It is our intent to protect the privacy of a student's financial, academic and other school records. We will not release such information to any individual without having first received the student's written request to do so, or unless otherwise required by law.

Tuition and Fees (U.S. Dollars)

All fees are subject to change from time to time, without notice. Courses at the Virtual Design and Construction Institute can be taken either as an entire program or individually. The following tuition and fees pertain:

Certificate Programs

	Total Hours	Tuition	Registration (Non Refundable)	Books & Materials (1)	STRF Tax	Total
Architectural CAD/BIM Certificate Program	256 Hrs	$4,705.00	$50.00	$ 660.00	$ 2.50	$ 5,417.50
BIM Project Management Professional Certificate Program	164 Hrs	$3,195.00	$50.00	$ 410.00	$ 2.00	$ 3,657.00
Architectural CAD Certificate Program	164 Hrs	$2,605.00	$50.00	$ 290.00	$ 1.50	$ 2,946.50
Architectural BIM Certificate Program	160 Hrs	$3,195.00	$50.00	$ 460.00	$ 2.00	$ 3,707.00
Digital Arts / Visualization Certificate Program	160 Hrs	$2,855.00	$50.00	$ 380.00	$ 1.50	$ 3,286.50
3D CAD Certificate Program	160 Hrs	$3,370.00	$50.00	$ 390.00	$ 2.00	$ 3,812.00
Civil 3D Certificate Program	152 Hrs	$2,686.00	$50.00	$ 390.00	$ 2.00	$ 3,128.00
Sustainable Design Certificate Program	152 Hrs	$2,945.00	$50.00	$ 430.00	$ 2.50	$ 3,427.50
MEP (Mechanical, Electrical, Plumbing) BIM Certificate Program	160 Hrs	$3,195.00	$50.00	$ 370.00	$ 2.00	$ 3,617.00
Structural BIM Certificate Program	160 Hrs	$3,195.00	$50.00	$ 420.00	$ 2.00	$ 3,667.00

Students attending VDCI can pay for their Certificate Programs, Bundled Training Programs or individual courses in full at the time of enrollment.

VDCI also offers payment plan options. With our payment plans, the costs of your Technology Certificate or Bundled Training Programs extend through the duration of your training. There are equal monthly payments, charged to your credit card and there are no interest charges.

Continuing Education Training Bundle Courses	Total Hours	Tuition	Registration (Non Refundable)	Books & Materials (Note 1)	STRF Tax	Total

Continuing Education Training Bundle Courses are designed by our instructors and our advisory committee to broaden our students' involvement with and exposure to CAD, BIM, and other software technologies. The courses bundled are sub-sets of our Certificate curriculae.

AutoCAD (CAD) Bundles

AutoCAD Bundle 1 – Complete AutoCAD CAD 101 CAD 201 CAD 301 CAD 302 CAD 303 CAD 304 CAD 305 CAD 306 CAD 401	196	$ 2,770.00	$50.00	$ 185.00	$ 1.50	$ 3,006.50
AutoCAD Bundle 2 - AutoCAD Construction Docs. CAD 101 CAD 201 CAD 301 CAD 302 CAD 401	100	$ 1,470.00	$50.00	$ 185.00	$ 1.00	$ 1,706.00
AutoCAD Bundle 3 - Advanced AutoCAD CAD 303 CAD 304 CAD 305 CAD 306	96	$ 1,380.00	$50.00	$ 60.00	$ 1.00	$ 1,491.00
AutoCAD Bundle 4 – AutoCAD Previous Experience CAD 201 CAD 301 CAD 302 CAD 401	76	$ 1,155.00	$50.00	$ 185.00	$ 1.00	$ 1,391.00

Revit / MEP / Navisworks (BIM) Bundles

Revit / Revit MEP / Navisworks (BIM) Bundle 1 - Complete BIM BIM 101 BIM 201 BIM 301 BIM 302 BIM 303 BIM 304 BIM 321 BIM 341 BIM 361 BIM 401	156	$ 3,105.00	$50.00	$ 395.00	$ 1.50	$ 3,551.00
Revit (BIM) Bundle 2 - Revit Construction Documents BIM 101 BIM 201 BIM 301 BIM 302 BIM 401	68	$ 1,470.00	$50.00	$ 195.00	$ 1.00	$ 1,716.00
Revit (BIM) Bundle 3 - Advanced BIM BIM 303 BIM 304 BIM 321 BIM 341 BIM 361	80	$ 1,725.00	$50.00	$ 395.00	$ 1.00	$ 2,171.00

Revit (BIM) Bundle 4 – Revit Previous Experience BIM 201 BIM 301 BIM 302 BIM 401	52	$ 1,155.00	$50.00	$ 195.00	$ 1.00	$ 1,401.00

Civil 3D Bundles

Civil 3D Bundle 1 - Civil 3D Fundamentals Civ3D 301 Civ3D 302 Civ3D 303 Civ3D 401	76	$ 1,155.00	$50.00	$ 175.00	$ 1.00	$ 1,381.00

Visualization Bundles

3dsMax / SketchUp Bundle 1 – Visualization Fundamentals DAC 201 DAC 202 DAC 211 DAC 212	80	$ 1,215.00	$50.00	$ 90.00	$ 1.00	$ 1,356.00

Customized Bundles

Custom Bundle 1 – Two Courses + Cert Review Select any two 16- or 24-hour courses Include one Cert Review Prep Course Save 10%	36-52	$ 890.00	$50.00	$ 250.00	$ 1.00	$ 1,191.00
Custom Bundle 2 – Three Courses Select any three 16- or 24-hour courses Save 10%	56-72	$ 1,185.00	$50.00	$ 250.00	$ 1.00	$ 1,486.00
Custom Bundle 3 – Four Courses Select any four 16- or 24-hour courses Save 12.5%	80-96	$ 1,580.00	$50.00	$ 300.00	$ 1.00	$ 1,931.00
Custom Bundle 4 – Five or more Courses Select any five or more 16- or 24-hour courses Save 15%	104-120	$ 1,975.00	$50.00	$ 300.00	$ 1.00	$ 2,326.00

Note (1) – For customized bundles, tuition costs vary depending upon the specific courses selected (Typical course costs $395. SketchUp is $300.00)

Note (2) – For customized bundles, textbook costs vary depending upon the specific courses selected

Individual Courses	Tuition	Registration (Non Refundable)	Books & Materials (1)	STRF Tax	Total
24 Hour Courses	$ 395.00	$ 0.00	$ 262.00	N/A	$ 657.00
16 Hour Courses	$ 395.00	$ 0.00	$ 262.00	N/A	$ 657.00
12 Hour Courses	$ 300.00	$ 0.00	$ 262.00	N/A	$ 562.00
4 Hour Courses	$ 100.00	$ 0.00	$ 300.00	N/A	$ 400.00

Note (1) – Required Text Books and Materials, including Autodesk Certification Exams. Citing average textbook costs.

STRF Tax is $0.50 per $1000 of Tuition

Note: No grades or documents will be released if there is an outstanding balance. The institution may refuse any type of service to students who have an outstanding balance. The institution may also refuse re-admission to a student who has left the institution with an outstanding balance. All fees are subject to change.

STRF Disclosure

§ 76215. Student Tuition Recovery Fund Disclosures.
You must pay the state-imposed assessment for the Student Tuition Recovery Fund (STRF) if all of the following applies to you:
1. You are a student, who is a California resident, or are enrolled in a residency program and prepay all or part of your tuition either by cash, guaranteed student loans, or personal loans, and
2. Your total charges are not paid by any third-party payer such as an employer, government program or other payer unless you have a separate agreement to repay the third party.

You are not eligible for protection from the STRF and you are not required to pay the STRF assessment, if either of the following applies to you:
1. You are not a California resident, or are not enrolled in a residency program, or
2. Your total charges are paid by a third party, such as an employer, government program or other payer, and you have no separate agreement to repay the third party."

"The State of California created the Student Tuition Recovery Fund (STRF) to relieve or mitigate economic losses suffered by students who are California residents, or are enrolled in a residency program attending certain schools regulated by the Bureau for Private Postsecondary and Vocational Education.

You may be eligible for STRF if you are a California resident or are enrolled in a residency program, prepaid tuition, paid the STRF assessment, and suffered an economic loss as a result of any of the following:
1. The school closed before the course of instruction was completed.
2. The school's failure to pay refunds or charges on behalf of a student to a third party for license fees or any other purpose, or to provide equipment or materials for which a charge was collected within 180 days before the closure of the school.
3. The school's failure to pay or reimburse loan proceeds under a federally guaranteed student loan program as required by law or to pay or reimburse proceeds received by the school prior to closure in excess of tuition and other cost.
4. There was a material failure to comply with the Act or this Division within thirty days before the school closed or, if the material failure began earlier than 30 days prior to closure, the period of decline determined by the Bureau.
5. An inability after diligent efforts to prosecute, prove and collect on a judgment against the institution for a violation of the Act. Sections 94803, 94877 and 94923, Education Code. Reference: Section 94923, Education Code.

Student Conduct

Students are expected to behave professionally and respectfully at all times. Students are subject to dismissal for breaches of security, for any inappropriate or unethical conduct or for any act of academic dishonesty.

Library Resources

No library is needed to meet the instructional needs of the students. The programs offered are all computer based and require the development of skills in the acquisition of knowledge. Library materials would not be compatible with these types of programs for professional designers, architects, engineers and others seeking job transition or professional advancement through the acquisition of computer design skills.

90 day to 13 month Autodesk student software licenses (depending upon the software) are granted free of charge to Virtual Design and Construction Institute students and is a valuable resource.

School Location

cadteacher / Virtual Design and Construction Institute
3904 Groton Street
San Diego, California 92110

Phone: 619-758-9300

Website: www.vdci.com

Effective Dates of this Catalog

January 1st, 2013 to December 31st, 2013

Virtual Design and Construction Institute is a private institution and is approved to operate by the Bureau for Private Postsecondary Education. (BPPE)

(A) **Questions** Any questions a student may have regarding this catalog that have not been satisfactorily answered by the institution may be directed to the Bureau for Private Postsecondary Education at (Physical Address): 2535 Capitol Oaks Drive, Suite 400, Sacramento, CA 95833, (Mailing Address): P.O. Box 980818, West Sacramento, CA 95798-0818, www.bppe.ca.gov, (916) 431-6959 or toll free (888) 370-7589 or Fax (916) 263-1897

(B) As a prospective student, you are encouraged to review this catalog prior to signing an enrollment agreement. You are also encouraged to review the School Performance Fact Sheet, which must be provided to you prior to signing an enrollment agreement.

(C) A student, or any member of the public may file a complaint about this institution with the Bureau for Private Postsecondary Education by calling toll free (888) 370-7589 or (916) 431-6959 by completing a complaint form, which can be obtained on the bureau's Internet Web site www.bppe.ca.gov.

Policies and Procedures Regarding Financial Aid

The school does not provide either State or Federal financial aid.

If a student obtains a loan to pay for an educational program, the student will have the responsibility to repay the full amount of the loan plus interest, less the amount of any refund, and that, if the student has received federal student financial aid funds, the student is entitled to a refund of the moneys not paid from federal student financial aid program funds.

Student's Right to Cancel

The student shall have the right to cancel the enrollment agreement and receive a refund of charges paid through attendance at the first class session, or the seventh day after enrollment, whichever is later. Cancellation is effective on the date written notice of cancellation is sent. The institution shall make the refund as per the calculation consistent with the California Code of Regulations. If the

institution delivered the first lesson and materials before an effective cancellation notice was received, the institution shall make a refund within 45 days after the student's return of the materials.

If the student has received federal student financial aid funds, the student is entitled to a refund of moneys not paid from federal student financial aid program funds.

A notice of cancellation shall be in writing, and a withdrawal may be effectuated by the student's written notice or by the student's conduct, including, but not necessarily limited to, a student's lack of attendance. The institution shall refund 100 percent of the amount paid for institutional charges, less a reasonable deposit or application fee not to exceed two hundred fifty dollars ($250), if notice of cancellation is made through attendance at the first class session, or the seventh class day (our courses are no more than six classes long) after enrollment, whichever is later.

The institution shall issue a refund for unearned institutional charges if the student cancels an enrollment agreement or withdraws during a period of attendance. The refund policy for students who have completed 60 percent or less of the period of attendance shall be a pro rata refund. The institution shall pay or credit refunds within 45 days of a student's cancellation or withdrawal.

This right to cancel is consistent with the requirements of Article 13 (commending with section CEC 94919) of the California Education Code.

Business Operations

The Virtual Design and Construction Institute has never had a pending petition in bankruptcy, is not operating as a debtor in passion, has not filed a petition within the preceding five years and has never had a petition in bankruptcy filed against it within the preceding five years that resulted in reorganization under Chapter 11 of the United States Bankruptcy Court.

Refund Policy

The student shall have the right to cancel the enrollment agreement and receive a refund of charges paid through attendance at the first class session, or the seventh day after enrollment, whichever is later. The amount owed to the student equals the institutional charge for the instruction divided by the total number of clock hours in the period of attendance multiplied by the number of clock hours the student has not attended prior to withdrawal. No refunds are due once the student has received 60% of the clock hours of instruction in any given period of attendance.

For purposes of determining a refund, a student shall be considered to have withdrawn from an educational program when he or she withdraws or is deemed withdrawn in accordance with the withdrawal policy stated in this institution's catalog.

If an institution has collected money from a student for transmittal on the student's behalf to a third party for a bond, library usage, or fees for a license, application, or examination and the institution has not paid the money to the third party at the time of the student's withdrawal or cancellation, the institution shall refund the money to the student within 45 days of the student's withdrawal or cancellation.

This institution shall refund any credit balance on the student's account within 45 days after the date of the student's completion of, or withdrawal from, the educational program in which the student was enrolled.

Any questions a student may have regarding this enrollment agreement that have not been satisfactorily answered by the institution may be directed to the Bureau for Private Postsecondary Education at P.O. Box 980818, West Sacrament, CA 95798-0818. www.bppe.ca.gov (phone) 916-574-7720 (fax) 916-574-8646.

A student or any member of the public may file a complaint about this institution with the Bureau for Private Postsecondary Education by calling 800-888-370-7589 or by completing a complaint form, which can be obtained on the bureau's Internet Web site www.bppe.ca.gov.

NOTICE CONCERNING TRANSFERABILITY OF CREDITS AND CREDENTIALS EARNED AT OUR INSTITUTION

"The transferability of credits you earn at the Virtual Design and Construction Institute is at the complete discretion of an institution to which you may seek to transfer. Acceptance of the certificate you earn in one of our technology software application programs is also at the complete discretion of the institution to which you may seek to transfer.

If the credits that you earn at this institution are not accepted at the institution to which you seek to transfer, you may be required to repeat some or all of your coursework at that institution. For this reason you should make certain that your attendance at this institution will meet your educational goals. This may include contacting an institution to which you may seek to transfer after attending Virtual Design and Construction Institute to determine if your credits will transfer."

This institution has not entered into an articulation or transfer agreement with any other college or university.

Student Grievance Procedures

This institution is dedicated to fair dealing and professional conduct. Should any student have a complaint, the student is asked to discuss the matter directly with an instructor or administrator. That instructor or administrator will engage in an informal process endeavoring to settle the dispute in good faith. That informal process will involve three steps: 1: an effort to define the problem, 2: an effort to identify acceptable options for resolution, and 3: an attempt to resolve the conflict through the application of one or more of those options for resolution. The student may thereafter choose to file a written complaint directly with the institution's Chief Academic Officer who will work to resolve the matter. The Chief Academic Officer is the individual designated to resolve student complaints. That individual will investigate all formal (written) complaints, endeavor to resolve all such complaints, and record an entry into the institution's official log. The formal process will involve:

(1) The student's submission of a written description of the specific allegations and the desired remedy, accompanied by any available documentary items. The filing deadline is 60 days after the beginning date of the term following that in which the dispute(s) occurred or are alleged to have occurred.
(2) The student may terminate the formal process should, in the interim, the informal process produce a satisfactory resolution.
(3) The Chief Academic Officer will notify all parties involved of the receipt and nature of the grievance. If a policy is being grieved, the administrator responsible for the policy will be notified.
(4) A timeline for resolution will be delivered to the principles by the Chief Academic Officer.
(5) Interested parties will communicate with the CAO in order to make recommendations to resolve the grievance.
(6) The party responsible for implementing the selected method of resolution will notify the principals of the decision reached. In the event that a student does not agree to the resolution proposed, the student retains the right to file a complaint with the Bureau for Private Postsecondary Education, Sacramento, CA.

Leaves of Absence
Should circumstances be such that a leave of absence is to be requested, a student must submit an application for a leave of absence. At the discretion of the Chief Academic Officer, a leave may be granted for a reasonable time, as warranted by the circumstances. If a student repeatedly resorts to the use of a leave of absence, and if such applications show a pattern of delays, or should the issuance of a leave of absence be such that it would significantly interfere with the planned completion of a program of study, the Chief Academic Officer may, in his/her sole discretion, dismiss a student from the program and issue the appropriate refunds as may be required.

Mode of Instruction
This is a dual-mode institution. All courses offered by the Virtual Design and Construction Institute are available by direct instruction (classroom) or by indirect instruction (online). Students may arrange to take some components by one mode of instruction and other course components by the other mode of instruction.

Transcripts
Each student's file will contain student's records, including a transcript of grades earned. The first copy of the official transcript is provided at no charge. Subsequent copies are available upon advance payment of the transcript fee of $25.00 for two copies. Transcripts will only be released to the student upon receipt of a written request bearing the student's live signature. No transcript will be issued until all tuition and other fees due the institution are paid current.

Academic Probation
The Chief Academic Officer may place a student on academic probation if the student is not making satisfactory academic progress as per this institution's published policy. The student's grade point average will be monitored at the end of each enrollment period when the grades are posted. Should the GPA fall below that required for completion, a student may be placed on academic probation. This will result in a formal advisory, which will be sent to the student, indicating the reason for the probation. Failure to maintain satisfactory academic progress may result in dismissal from the program. The Chief Academic Officer will offer assistance in locating a suitable tutor, should such service be requested by the student.

Attendance Policy – All Programs
This institution requires that a student attend a minimum of 90% of scheduled class, laboratory and other such assigned hours.

Admissions Policy
1) The student must pay all registration and tuition fees and other such fees as may be applicable.
2) The student must meet any prerequisites for the program in which the individual seeks admission. Students must submit certified documents to show proof of the credits earned at other institutions, as official transcripts will be required.

Student Conduct

Students are expected to behave professionally and respectfully at all times. Students are subject to dismissal for any inappropriate or unethical conduct or for any act of academic dishonesty. Students are expected to dress and act accordingly while attending this institution. At the discretion of the school administration a student may be dismissed from school for reasons including, but not limited to:

- Coming to class in an intoxicated or drugged state.
- Possession of drugs or alcohol on campus.
- Possession of a weapon on campus.
- Behavior creating a safety hazard to other person(s).
- Disobedient or disrespectful behavior to other students, an administrator or instructor.
- Visiting inappropriate web sites
- Stealing or damaging the property of another.

Any students found to have engaged in such conduct will be asked to leave the premises immediately. Disciplinary action will be determined by the Chief Executive Officer of this institution and such determination will be made within 10 days after meeting with both the chair of the department in which the student is enrolled and the student in question.

Academic Probation

The Chief Academic Officer may place a student on academic probation if the student is not making satisfactory academic progress as per this institution's published policy. The student's grade point average will be monitored at the end of each enrollment period when the grades are posted. Should the GPA fall below that required for graduation, a student may be placed on academic probation. This will result in a formal advisory, which will be sent to the student, indicating the reason for the probation. Failure to maintain satisfactory academic progress may result in dismissal from the program.

Grades and Standards for Student Achievement - Satisfactory Progress

Grades are awarded on a traditional A+,A, A-, B+, B, B- ... F system. The minimum passing grade is a D-. The minimum allowable grade point average to maintain satisfactory progress is a C, or 2.0.

In calculating a student's grade point average, the following policy applies:

Letter Grade	Percent	Grade Points	Letter Grade	Percent	Grade Points
A+	100	4.00	C	80	2.00
A	97	3.67	C-	76	1.67
A-	95	3.50	D+	75	1.33
B+	94	3.33	D	72	1.00
B	90	3.00	D-	69	0.67
B-	86	2.67	F	< 69	0.00
C+	85	2.33			

If the student has not completed the coursework and earned a grade at the end of the course, the instructor may issue one of the following grades.

I Incomplete If the course has not been completed, the instructor may grant an I on a two-month extension of the term, at no additional tuition cost, when the student is making satisfactory progress and the instructor believes that an extension of time will permit satisfactory completion. At the end of this period, a final grade must be recorded.

W Withdraw The student may withdraw from any course before the end of the term. At the end of the term, the instructor may withdraw the student from the course and issue a W when the instructor believes the student's progress is insufficient to warrant an extension. A student who withdraws or is administratively withdrawn must retake the course and is responsible for a new tuition payment for that course of study.

Student Housing

This institution does not operate dormitories. There are hotel options available in the immediate neighborhood which range in the sub-$100.00 per night range (depending on the season). The staff at VDCI can assist students by recommending/locating nearby hotel or other types of accommodations.

Distance Education Evaluation

For our online, distance education students, no more than three business days will elapse between the institution's receipt of student lessons, projects or dissertations and the institution's mailing and/or emailing its response and/or evaluation.

Distance Educational Programs - Specific Provisions for Instruction Not in Real Time.

As a dual-mode institution, VDCI offers a distance educational program option where the instruction is not offered in real time. For students attending VDCI as asynchronous students, VDCI shall transmit the first lesson and any materials to any student within seven days after the institution accepts the student for admission.

The student shall have the right to cancel the agreement and receive a full refund before the first lesson and materials are received. Cancellation is effective on the date written notice of cancellation is sent. The institution shall make the refund pursuant to the following, which complies with CCR Section 71750:

> (a) VDCI shall make refunds that are no less than the refunds required under the Act and this Division.
>
> (b) VDCI may not enforce any refund policy that is not specified in the catalog as required pursuant to section 94909(a)(8)(B) of the Code, and must refund all institutional charges upon a student's withdrawal. Withdrawal policy procedures pursuant to section 94909(a)((8)(B) of the Code shall include, at a minimum: the acceptable methods of delivery of a notice to withdraw; whether withdrawal can be accomplished by conduct, and if so, how; the position or

positions to whom the notice to withdraw must be delivered; and the date that the notice to withdraw is considered effective, which shall be no later than the date received by the institution.

(c) A pro rata refund pursuant to section 94919(c) or 94920(d) or 94927 of the Code shall be no less than the total amount owed by the student for the portion of the educational program provided subtracted from the amount paid by the student, calculated as follows:

(1) The amount owed equals the daily charge for the program (total institutional charge, divided by the number of days or hours in the program), multiplied by the number of days student attended, or was scheduled to attend, prior to withdrawal.

(2) Except as provided for in subdivision (a)(3) of this section, all amounts paid by the student in excess of what is owed as calculated in subdivision (a)(1) shall be refunded.

(3) Except as provided herein, all amounts that the student has paid shall be subject to refund unless the enrollment agreement and the refund policy outlined in the catalog specify amounts paid for an application fee or deposit not more than $250.00, books, supplies, or equipment, and specify whether and under what circumstances those amounts are non-refundable. Except when an institution provides a 100% refund pursuant to section 94919(d) or section 94920(b) of the Code, any assessment paid pursuant to section 94923 of the Code is non-refundable.

(4) For purposes of determining a refund under the Act and this section, a student shall be considered to have withdrawn from an educational program when he or she withdraws or is deemed withdrawn in accordance with the withdrawal policy stated in its catalog.

(d) If VDCI has collected money from a student for transmittal on the student's behalf to a third party for a bond, library usage, or fees for a license, application, or examination and the institution has not paid the money to the third party at the time of the student's withdrawal or cancellation, the institution shall refund the money to the student within 45 days of the student's withdrawal or cancellation.

If VDCI has sent the first lesson and materials before an effective cancellation notice was received, VDCI shall make a refund within 45 days after the student's return of the materials.

VDCI shall transmit all of the lessons and other materials to the student if the student: (a) has fully paid for the educational program; and (b) after having received the first lesson and initial materials, requests in writing that all of the material be sent.

If VDCI transmits the balance of the material as the student requests, VDCI shall remain obligated to provide the other educational services it agreed to provide, such as responses to student inquiries, student and faculty interaction, and evaluation and comment on lessons submitted by the student, but shall not be obligated to pay any refund after all of the lessons and material are transmitted.

Administration

Name
Chief Executive Officer, Chief Academic Officer
Al Whitley, MBA, AIA

Name
Chief Operations Officer
Amanda Wurangian

Name
Chief Financial Officer
J. T. Struck

Faculty

Name of Instructor	Specific Courses To Be Taught	College or Work Qualifications
Al Whitley, MBA, AIA	AutoCAD, Blueprint Reading & Detailing	BBA College of William and Mary MBA San Diego State University Registered Architect, California C25526 Autodesk Certification AutoCAD and Revit
Trevor Cornell	Navisworks, AutoCAD, Revit, Blueprint Reading, Ecotect	B Arch Woodbury University LEED Certified 6 years experience as Architectural Project Manager Autodesk Certification AutoCAD and Revit
Mike Wilson	Revit, 3dsMax	B Arch New School of Architecture San Diego. 10 years experience as Architectural Project Manager Autodesk Certification Revit and 3dsMax
Paulo da Rosa	Revit, Revit Structure	BS Civil Engineering, San Diego State University 5 years experience as Architectural Project Manager Autodesk Certification AutoCAD and Revit
Scott Webb	Revit, 3ds Max	12 years experience as Architectural Project Manager Autodesk Certification AutoCAD and Revit
Tyler Grant	AutoCAD and Revit	B Arch, New School of Architecture 7 years experience as Architectural Project Manager Autodesk Certification AutoCAD and Revit
Jorge Mata	SketchUp	B Arch Woodbury University 5 years experience as Architectural Project Manager
Michael Kinnear	AutoCAD Civil 3D	BS Civil Engineering, University of California, Davis Registered PE, State of California 5 years experience as Civil Engineering Project Manager Autodesk Certification AutoCAD Civil 3D

Nondiscrimination Policy

This institution is committed to providing equal opportunities to all applicants to programs and to all applicants for employment. Therefore, no discrimination shall occur in any program or activity of this institution, including activities related to the solicitation of students or employees on the basis of race, color, religion, religious beliefs, national origin, sex, sexual orientation, marital status, pregnancy, age, disability, veteran's status, or any other classification that precludes a person from consideration as an individual. Please direct any inquiries regarding this policy, if any, to the Chief Operations Officer who is assigned the responsibility for assuring that this policy is followed.

Student Services

This institution does not provide orientations, airport reception services, housing assistance or other services. Further, this institution maintains a focus on the delivery of educational services. Should a student encounter personal problems which interfere with his or her ability to complete coursework,

this institution will provide assistance in identifying appropriate professional assistance in the student's local community but does not offer personal counseling assistance.

Application Instructions

Part-time or full-time students must file an application with the application fee made payable to Virtual Design and Construction Institute. The application form and instructions are available and can be provided by mail or e-mail. All entering students must review program requirements.

Description of Facilities and Equipment

The Virtual Design and Construction Institute is located in a two-story professional office building, approximately one mile from the Pacific Ocean, in the Point Loma area of San Diego. The building has been completely remodeled and is approximately 40 years of age. The renovated facility fully complies with all current building codes and with all ADA code requirements. The facility serves as both a school with fully equipped computer labs, and also houses Mr. Whitley's architectural design service business.

With approximately 5,500 SF of space, the building accommodates six computer labs and the school's administrative offices. All of our classrooms include state-of-the-art computer hardware for each student including projection systems to facilitate instruction. We teach using the latest CAD, BIM and VDC software to provide our students relevant, hands-on training of how industry professionals are applying the use of current software technology. All of our classrooms provide internet access, access to our Student Information Systems and also access to our online resources.

Academic Freedom

Virtual Design and Construction Institute is committed to assuring full academic freedom to all faculty. Confident in the qualifications and expertise of its faculty members, the school encourages its faculty members to exercise their individual judgments regarding the content of the assigned courses and instructional methods, providing only that these judgments are made within the context of the course descriptions as currently published, and providing that the instructional methods are those official sanctioned by the institution.

Sexual Harassment

This institution is committed to providing a study and work environment that is free of discrimination, intimidation and harassment. In keeping with this commitment, we believe that it is necessary to affirmatively address this subject and express our strong disapproval of sexual harassment. No one associated with this institution may engage in verbal abuse of a sexual nature; use sexually degrading or graphic words to describe an individual or an individual's body; or display sexually suggestive objects or pictures at any facility or other venue associated with this institution. Students are responsible for conducting themselves in a manner consistent with the spirit and intent of this policy.

English as a Second Language Instruction

This institution does not provide ESL instruction.

Academic Transfer of Credit Policy

The school does not accept the transfer of credit.

The Process of Establishing Equivalency

Notice Concerning Transferability of Units and Degrees Earned at our School

"The transferability of credits you earn at this institution is at the complete discretion of an institution to which you may seek to transfer. Acceptance of the graduate degree or credits you earn in our institution's Master of Arts in Acupuncture is also at the complete discretion of the institution to which you may seek to transfer. If the credits or graduate degree that you earn at this institution are not accepted at the institution to which you seek to transfer, you may be required to repeat some or all of your coursework at that institution. For this reason you should make certain that your attendance at this institution will meet your educational goals. This may include contacting an institution to which you may seek to transfer after attending our institution to determine if your credits or undergraduate degree will transfer."

This institution has not entered into an articulation or transfer agreement with any other college or university.

Applicability towards Professional Licensure

The courses taught at Virtual Design and Construction Institute are designed to facilitate improved technical skill competencies within the construction industry. The courses taught at the Institute are not required for professional licensure.

Students from Other Countries

With regards to visa status, for our students from other countries, the Virtual Design and Construction Institute will NOT vouch for student status.

Prior Experiential Learning

The Virtual Design and Construction Institute has developed a strong, industry-recognized curriculum. To ensure that our students' learning is optimized, the Institute requires that our students complete all courses in our required curriculum at the Institute, so that the Institute can ensure our students' successful understanding and application of all relevant subject matter. There are not any provisions for appeal.

Placement Services

The Virtual Design and Construction Institute does not provide placement services.

Program Descriptions

cadteacher/virtual design and construction institute offers the following Technology Certificate Programs:

Certificate Name	Hours of Instruction
Architectural CAD/BIM Certificate Program	256 Hours
BIM Project Management Professional Certificate Program	164 Hours
Architectural CAD Certificate Program	164 Hours
Architectural BIM Certificate Program	160 Hours
Digital Arts / Visualization Certificate Program	160 Hours
3D CAD Certificate Program	160 Hours
Civil 3D Certificate Program	152 Hours
Sustainable Design Technology Certificate Program	152 Hours
MEP (Mechanical, Electrical, Plumbing) BIM Certificate Program	160 Hours
Structural BIM Certificate Program	160 Hours

Architectural CAD/BIM Certificate Program

Program Description – 256 Hours of Instruction

COMPUTER-AIDED DESIGN (CAD) / BUILDING INFORMATION MODELING (BIM)
There is an increasing demand for competent architectural/engineering/construction/design engineering technicians knowledgeable in the application and integration of CAD and BIM software. The CAD and BIM courses at the Virtual Design and Construction Institute provide students the opportunity to obtain a certificate in these areas. The classes are designed to provide students an opportunity to learn relevant skills and technical knowledge used in a variety of construction industry-focused disciplines. The curriculum is based on the current professional skill sets required by business. The lessons learned and exercises practiced are based on current, industry CAD and BIM required skills.

CAREER OPTIONS
The following list is a sample of disciplines that employ people with a strong, working knowledge of CAD and BIM skill sets. Some areas require that their employees have professional training and/or experience in addition to the technical training learned at the Virtual Design and Construction Institute:

Architects	Electrical Engineers	Mechanical Engineers
Architectural Drafters	Electrical Drafters	Photovoltaic Engineers
Cabinetmakers	Industrial Designers	Real Estate Managers
Construction Managers	Interior Designers	Sound Engineers
Engineering Managers	Mechanical Drafters	Urban Planners

The **Architectural CAD/BIM Certificate** is designed to provide students with the skills and technical knowledge requested by employers using Computer-Aided Design (CAD) and Building Information Modeling (BIM) software. The certificate program focuses on the development of fundamental drafting and CAD and BIM skills and problem-solving strategies. Please see the Course Descriptions for further information on class content.

Our **Architectural CAD/BIM Certificate** curriculum is built around how architects, engineers, contractors and trades professionals use CAD (Computer Aided Drafting) and BIM (Building Information Modeling) in their businesses for project documentation.

There are five focus areas of study for this certificate:
(1) Fundamental Classes – Blueprint Reading
(2) CAD-specific classes – using AutoCAD
(3) BIM-specific classes – using Revit and Navisworks
(4) Digital Arts (Visualization)-specific classes – using 3dsMax and SketchUp
(5) Sustainable Design Technology classes – using GBS and Ecotect

PFC - Fundamental Classes - Understanding how to read a set of construction documents is of primary importance to anyone working on the construction industry. "Blueprint" is the historic name for construction drawings. Contractors would do their work implementing the design and construction processes detailed in the "blueprints." Our **Blueprint Reading for the Construction Industry** course utilizes lectures, hands-on demonstrations and lab exercises to familiarize participants with the art of blueprint reading. The course will review a set of both residential and commercial construction documents.

CAD-Specific Classes – After our Blueprint Reading classes, we begin our study of CAD, using **AutoCAD**. In the construction industry, knowing how to use AutoCAD is as valuable a skill as knowing how to use MS Office. AutoCAD is THE DEFACTO STANDARD used at all levels and by all disciplines in the construction industry - including facilities people, sound engineers, trades professionals and solar power people, to name a few. Our introductory, intermediate and advanced classes document two residential projects - from the ground up. By the completion of our AutoCAD series of classes, a complete set of construction documents will be built for a moderately complicated project – a project worthy of presentation during a job interview. The completed project includes a full set of construction documents, including details.

BIM-Specific Classes – After learning AutoCAD, our students expand their knowledge base into the realm of Building Information Modeling (BIM). **Revit** is the industry standard software program for BIM. In Revit, you create a 3D model of a project and extract the construction documents directly from the BIM model. All of our Revit classes are linked together, so a student constantly builds on lessons learned in the previous classes. By the completion of our Revit series of classes, a complete set of construction documents will be built for a moderately complicated commercial project. Today, Government, Military, Hospital, Education and other similarly-scaled projects require that their work be completed in Revit (BIM).

It is becoming increasingly common for construction managers to run 3D interference checks on the Revit model using Navisworks. For example, Navisworks analyzes where the mechanical, plumbing, structural and other disciplines' design work are occupying the same location in the building. By identifying these interferences during design, significant dollars are saved during construction, and change orders are significantly reduced. Today, most Government, Military, Hospital, Education and other similarly-scaled projects require that their work be analyzed in Navisworks.

DAC - Digital Arts (Visualization)-Specific Classes – Most clients want both technical documentation on their projects and renderings and animations. SketchUp is a software program which is regularly used in the construction industry to create preliminary 3D designs for construction projects. 3ds Max is an incredible animation and rendering program which is used for construction renderings, animations, fly-throughs, product visualizations and even in the gaming and multi-media industries. We have carefully developed our training in SketchUp and 3dsMax courses to most effectively assist our students target their skills appropriately. We have also included Autodesk Impression, a presentation program regularly used by architects and designers to present their designs to regulatory agencies.

Civil/Infrastructure-Specific Classes – These classes focus on the specific technologies

appropriate to current and projected skill set requirements for the development and refurbishing of our infrastructure system and also towards site development. Students are exposed to public 3D/virtual databases and learn about 3D data management and project file sharing through web-based technologies such as project FTP, MILCON, and city/state/national databases. Coursework integrates with CALTRANS and other public agency requirements and databases.

GTC - Sustainable Design Technology-Specific Classes – After learning Revit and Navisworks, our students expand their knowledge base into the realm of Sustainable Design. Green Building Studio (GBS) and Ecotect are the leading, industry standard software programs for Sustainable Design/Sustainable Technology. In both GBS and Ecotect, you develop and analyze your Revit model and conduct your energy analysis directly from the BIM model. All of our BIM and Sustainable Design Technology classes are linked together, so a student constantly builds on lessons learned in the previous classes.

Mission & Objectives

The mission of Virtual Design and Construction Institute is to offer quality campus based and online certificate programs, to motivated adults who are able to work independently and in small groups and who may benefit from intensive instruction in various CAD, BIM and other Virtual Design software programs.

The Virtual Design and Construction Institute will provide students with an up-to-date curriculum which is both intellectually challenging, practical and appropriate for the professional and trades environments.

Part of our mission is to convey to students the importance of continuing education. We endeavor to sustain our course offerings by developing an operational environment that is professionally managed, competently supervised, continually evaluated and appropriately modified thereby providing course curriculum material that are kept current. Virtual Design and Construction Institute provides onsite and online AutoCAD, Revit, Autodesk Inventor, AutoCAD Civil 3D, Navisworks, 3ds Max, SketchUp and other Construction Industry-targeted software training.

In all programs and services, the Virtual Design and Construction Institute respects the value of diversity among students and faculty. Therefore, we encourage the participation of individuals from all nationalities, races, and colors.

Virtual Design and Construction Institute - Purpose Statement

The special character of this institution is reflected in its commitment to the study of Virtual Design and Construction (VDC) software, including CAD/BIM/Digital Prototyping and Visualization software programs. The purpose of the institution is to help students acquire competency in the use of Computer Aided Design, Building Information Modeling and other Virtual Design and Construction software.

Virtual Design and Construction Institute – Objectives

All programs at Virtual Design and Construction Institute have a set of stated objectives which continue to evolve as the sophistication of the design software evolves. Currently, the institution's objectives are to:

- Provide students with training in the use of architectural, structural, mechanical/electrical/plumbing and civil design software.
- Provide students with a professional atmosphere conducive to learning.
- Assure programs are delivered by highly qualified and experience instructors.
- Assure students obtain the skills and knowledge needed to improve their productivity and enhance their credibility in the workplace.

Architectural CAD/BIM Certificate

Students must complete 256 Hours of Required and Elective Courses

Course Number	Course Name	Number of Hours

Required Courses

Students must complete 184 Hours of Required Courses. Does not include prerequisites.

PFC 101	Blueprint Reading for the Construction Industry	4
CAD 101	Introduction to AutoCAD	24
CAD 201	Intermediate AutoCAD	24
CAD 301	CAD Construction Documents 1	24
CAD 302	CAD Construction Documents 2	24
BIM 101	Introduction to Revit	16
BIM 201	Intermediate Revit	16
BIM 301	BIM Construction Documents 1	16
BIM 302	BIM Construction Documents 2	16
BIM 361	Navisworks 1	16
PFC 501	Certificate Completion Practical	4

Elective Courses

Students must complete at least 72 Hours of Elective Courses

BIM 303	BIM Architectural Detailing	16	Strongly Recommended	
BIM 304	BIM Project Management	16	Strongly Recommended	+
BIM 321	Revit MEP 1	24	Strongly Recommended	+
BIM 322	Revit MEP 2	16		
BIM 341	Revit Structure 1	16		
BIM 342	Revit Structure 2	16		
BIM 362	Navisworks 2	16		
BIM 401	Autodesk Certification Test Prep	4	Strongly Recommended	+
BIM 402	BIM Special Studies	24		
BIM 404	Focused Topics	4		
CAD 303	CAD Architectural Detailing	16		
CAD 304	CAD Project Management	16		
CAD 305	Introduction to 3D Modeling	24		
CAD 306	Intermediate 3D Modeling	24		
CAD 401	Autodesk Certification Test Prep	4	Strongly Recommended	+
CAD 402	CAD Special Studies	24		
CAD 404	Focused Topics	4		
Civil 3D CAD 301	Introduction to Autodesk Civil 3D	24		
Civil 3D CAD 302	Intermediate Autodesk Civil 3D	24		
Civil 3D CAD 303	Autodesk Civil Construction Documents	24		
Civil 3D CAD 401	Autodesk Certification Test Prep	4		
Civil 3D CAD 402	Civil 3D Special Studies	24		
Civil 3D CAD 404	Focused Topics	4		
DAC 201	Introduction to 3ds Max	24	Strongly Recommended	+
DAC 202	Intermediate 3ds Max	24		
DAC 203	Advanced 3ds Max	24		
DAC 211	Introduction to SketchUp	16	Strongly Recommended	
DAC 212	Intermediate SketchUp	16		
DAC 221	Introduction to Photoshop	16		
DAC 222	Introduction to Autodesk Impression	16		
DAC 304	Project Management	16		
DAC 401	Autodesk Certification Test Prep	4		
DAC 402	DAC Special Studies	24		
DAC 404	Focused Topics	4		
GTC 102	Introduction to Sustainable Building Design	12	Strongly Recommended	
GTC 103	Intermediate Sustainable Building Design	12		
GTC 201	Advanced Sustainable Building Design	12		
GTC 202	Introduction to Energy Analysis	20		
GTC 402	Sustainable Design Special Studies	24		
GTC 404	Focused Topics	4		

Requirements for Completion

To complete this program a student must attend a minimum of 90% of the scheduled hours of instruction, achieve an average score of 80% or greater on quizzes and exams, and pass an instructor monitored practical exam demonstrating competence in Construction Industry CAD and BIM.

BIM Project Management Professional (PMP) Certificate Program

Program Description – 164 Hours of Instruction

PROJECT MANAGMENT PROFESSIONAL (PMP) BUILDING INFORMATION MODELING (BIM) FACILITATION
There is an increasing demand for competent architectural/engineering/construction/design engineering technicians knowledgeable in the application and integration of BIM software at the project level. The BIM Project Management courses at the Virtual Design and Construction Institute provide students the opportunity to obtain a certificate in these areas. The classes are designed to provide students an opportunity to learn relevant skills and technical knowledge used in a variety of construction industry-focused disciplines. The curriculum is based on the current professional skill sets required by business for the successful project management of BIM-based construction projects. The lessons learned and exercises practiced by BIM managers and BIM Facilitators, based on current, industry BIM Project Management-required skills.

CAREER OPTIONS
The following list is a sample of disciplines that employ people with a strong, working knowledge of BIM Project Management skill sets. Some areas require that their employees have professional training and/or experience in addition to the technical training learned at the Virtual Design and Construction Institute:

Architects	Engineering Managers	Mechanical Engineers
Architectural Drafters	Electrical Engineers	MEP Project Managers
Architectural Project Managers	Electrical Drafters	Structural Engineers
BIM Facilitators	Sustainable Design/LEED Pjt. Managers	Structural Project Managers
Construction Managers	Mechanical Drafters	Urban Planners

The **BIM Project Management Professional (PMP) Certificate** is designed to provide students with the project management skills and technical knowledge requested by employers using Building Information Modeling (BIM) software. The certificate program focuses on the development of mid-level professional project managers and BIM skills and problem-solving strategies. Please see the Course Descriptions for further information on class content.

Our **BIM Project Management Professional (PMP) BIM Certificate** curriculum is built around how architects, engineers, contractors and trades professionals use BIM (Building Information Modeling) in their businesses for project management.

There are three focus areas of study for this certificate:
(1) Fundamental Classes – Blueprint Reading
(2) BIM-specific classes – using Revit and Navisworks
(3) Sustainable Design Technology classes – using GBS and Ecotect

PFC - Fundamental Classes – We would expect that most people attending our PMP BIM courses would understand Blueprint Reading, but in the event our students do not have that on-hands experience, we provide this fundamental class. Understanding how to read a set of construction documents is of primary importance to anyone working on the construction industry. "Blueprint" is the historic name for construction drawings. Contractors would do their work implementing the design and construction processes detailed in the "blueprints." Our **Blueprint Reading for the Construction Industry** course utilizes lectures, hands-on demonstrations and lab exercises to familiarize participants with the art of blueprint reading. The course will review a set of both residential and commercial construction documents.

BIM-Specific Classes – After learning AutoCAD, our students expand their knowledge base into the realm of Building Information Modeling (BIM). **Revit** is the industry standard software program for BIM. In Revit, you create a 3D model of a project and extract the construction documents directly from the BIM model. All of our Revit classes are linked together, so a student constantly builds on lessons learned in the previous classes. By the completion of our Revit series of classes, a complete set of construction documents will be built for a moderately complicated commercial project. Today, Government, Military, Hospital, Education and other similarly-scaled projects require that their work be completed in Revit (BIM).

It is becoming increasingly common for construction managers to run 3D interference checks on the Revit model using **Navisworks**. For example, Navisworks analyzes where the mechanical, plumbing, structural and other disciplines' design work are occupying the same location in the building. By identifying these interferences during design, significant dollars are saved during construction, and change orders are significantly reduced. Today, most Government, Military, Hospital, Education and other similarly-scaled projects require that their work be analyzed in Navisworks.

DAC - Digital Arts (Visualization)-Specific Classes – Most clients want both technical documentation on their projects and renderings and animations. SketchUp is a software program which is regularly used in the construction industry to create preliminary 3D designs for construction projects. 3ds Max is an incredible animation and rendering program which is used for construction renderings, animations, fly-throughs, product visualizations and even in the gaming and multi-media industries. We have carefully developed our training in SketchUp and 3dsMax courses to most effectively assist our students target their skills appropriately. We have also included Autodesk Impression, a presentation program regularly used by architects and designers to present their designs to regulatory agencies.

GTC - Sustainable Design Technology-Specific Classes – After learning Revit and Navisworks, our students expand their knowledge base into the realm of Sustainable Design. Green Building Studio (GBS) and Ecotect are the leading, industry standard software programs for Sustainable Design/Sustainable Technology. In both GBS and Ecotect, you develop and analyze your Revit model and conduct your energy analysis directly from the BIM model. All of our BIM and Sustainable Design Technology classes are linked together, so a student constantly builds on lessons learned in the previous classes.

Mission & Objectives

The mission of Virtual Design and Construction Institute is to offer quality campus based and online certificate programs, to motivated adults who are able to work independently and in small groups and who may benefit from intensive instruction in various CAD, BIM and other Virtual Design software programs.

The Virtual Design and Construction Institute will provide students with an up-to-date curriculum which is both intellectually challenging, practical and appropriate for the professional and trades environments.

Part of our mission is to convey to students the importance of continuing education. We endeavor to sustain our course offerings by developing an operational environment that is professionally managed, competently supervised, continually evaluated and appropriately modified thereby providing course curriculum material that are kept current. Virtual Design and Construction Institute provides onsite and online AutoCAD, Revit, Autodesk Inventor, AutoCAD Civil 3D, Navisworks, 3ds Max, SketchUp and other Construction Industry-targeted software training.

In all programs and services, the Virtual Design and Construction Institute respects the value of diversity among students and faculty. Therefore, we encourage the participation of individuals from all nationalities, races, and colors.

Virtual Design and Construction Institute - Purpose Statement

The special character of this institution is reflected in its commitment to the study of Virtual Design and Construction (VDC) software, including CAD/BIM/Digital Prototyping and Visualization software programs. The purpose of the institution is to help students acquire competency in the use of Computer Aided Design, Building Information Modeling and other Virtual Design and Construction software.

Virtual Design and Construction Institute – Objectives

All programs at Virtual Design and Construction Institute have a set of stated objectives which continue to evolve as the sophistication of the design software evolves. Currently, the institution's objectives are to:

- Provide students with training in the use of architectural, structural, mechanical/electrical/plumbing and civil design software.
- Provide students with a professional atmosphere conducive to learning.
- Assure programs are delivered by highly qualified and experience instructors.
- Assure students obtain the skills and knowledge needed to improve their productivity and enhance their credibility in the workplace.

BIM Project Management Professional Certificate

Students must complete 168 Hours of Required and Elective Courses

Course Number	Course Name	Number of Hours		
Required Courses				
Students must complete 124 Hours of Required Courses. Does not include prerequisites.				
BIM 101	Introduction to Revit	16		
BIM 201	Intermediate Revit	16		
BIM 301	BIM Construction Documents 1	16		
BIM 302	BIM Construction Documents 2	16		
BIM 304	BIM Project Management	16		
BIM 321	Revit MEP 1	24		
BIM 361	Navisworks 1	16		
PFC 501	Certificate Completion Practical	4		
Elective Courses				
Students must complete at least 40 Hours of Elective Courses				
BIM 303	BIM Architectural Detailing	16	Strongly Recommended	+
BIM 322	Revit MEP 2	16	Strongly Recommended	+
BIM 341	Revit Structure 1	16	Strongly Recommended	
BIM 342	Revit Structure 2	16		
BIM 362	Navisworks 2	16		
BIM 401	Autodesk Certification Test Prep	4	Strongly Recommended	+
BIM 402	BIM Special Studies	24		
BIM 404	Focused Topics	4		
CAD 101	Introduction to AutoCAD	24		
CAD 201	Intermediate AutoCAD	24		
CAD 301	CAD Construction Documents 1	24		
CAD 302	CAD Construction Documents 2	24		
CAD 303	CAD Architectural Detailing	16		
CAD 305	Introduction to 3D Modeling	24		
CAD 306	Intermediate 3D Modeling	24		
CAD 401	Autodesk Certification Test Prep	4		
CAD 402	CAD Special Studies	24		
CAD 404	Focused Topics	4		
Civil 3D CAD 301	Introduction to Autodesk Civil 3D	24		

Civil 3D CAD 302	Intermediate Autodesk Civil 3D	24		
Civil 3D CAD 303	Autodesk Civil Construction Documents	24		
Civil 3D CAD 401	Autodesk Certification Test Prep	4		
Civil 3D CAD 402	Civil 3D Special Studies	24		
Civil 3D CAD 404	Focused Topics	4		
DAC 201	Introduction to 3ds Max	24	Strongly Recommended	+
DAC 202	Intermediate 3ds Max	24		
DAC 203	Advanced 3ds Max	24		
DAC 211	Introduction to SketchUp	16	Strongly Recommended	+
DAC 212	Intermediate SketchUp	16		
DAC 221	Introduction to Photoshop	16		
DAC 222	Introduction to Autodesk Impression	16		
DAC 304	Project Management	16		
DAC 401	Autodesk Certification Test Prep	4		
DAC 402	DAC Special Studies	24		
DAC 404	Focused Topics	4		
GTC 102	Introduction to Sustainable Building Design	12	Strongly Recommended	
GTC 103	Intermediate Sustainable Building Design	12		
GTC 201	Advanced Sustainable Building Design	12		
GTC 202	Introduction to Energy Analysis	20		
GTC 402	Sustainable Design Special Studies	24		
GTC 404	Focused Topics	4		
PFC 101	Blueprint Reading for the Construction Industry	4	Strongly Recommended	

Requirements for Completion

To complete this program a student must attend a minimum of 90% of the scheduled hours of instruction, achieve an average score of 80% or greater on quizzes and exams, and pass an instructor monitored practical exam demonstrating competence in BIM Project Management for Construction Industry.

Architectural CAD Certificate Program

Program Description – 164 Hours of Instruction

ARCHITECTURAL COMPUTER-AIDED DESIGN (CAD)
There is a strong demand for competent architectural/engineering/construction/design engineering technicians knowledgeable in the application and integration of CAD software. The CAD courses at the Virtual Design and Construction Institute provide students the opportunity to obtain a certificate in these areas. The classes are designed to provide students an opportunity to learn relevant skills and technical knowledge used in a variety of construction industry-focused disciplines. The curriculum is based on the current professional skill sets required by business. The lessons learned and exercises practiced are based on current, industry CAD required skills.

CAREER OPTIONS
The following list is a sample of disciplines that employ people with a strong, working knowledge of CAD skill sets. Some areas require that their employees have professional training and/or experience in addition to the technical training learned at the Virtual Design and Construction Institute:

Architects	Electrical Engineers	Photovoltaic Engineers
Architectural Drafters	Electrical Drafters	Real Estate Managers
Construction Managers	Interior Designers	Sound Engineers
Contractors	Mechanical Drafters	Surveyors
Engineering Managers	Mechanical Engineers	Urban Planners

The **Architectural CAD Certificate** is designed to provide students with the skills and technical knowledge requested by employers using Computer-Aided Design (CAD) and Building Information Modeling (BIM) software. The certificate program focuses on the development of fundamental drafting and CAD and BIM skills and problem-solving strategies. Please see the Course Descriptions for further information on class content.

Our **Architectural CAD Certificate** curriculum is built around how architects, engineers, contractors and trades professionals use CAD (Computer Aided Drafting) and BIM (Building Information Modeling) in their businesses for project documentation.

There are four focus areas of study for this certificate:
(1) Fundamental Classes – Blueprint Reading
(2) CAD-specific classes – using AutoCAD
(3) 3D CAD-specific classes – using AutoCAD
(4) Digital Arts (Visualization)-specific classes – using 3dsMax and SketchUp

PFC - Fundamental Classes - Understanding how to read a set of construction documents is of primary importance to anyone working on the construction industry. "Blueprint" is the historic name

for construction drawings. Contractors would do their work implementing the design and construction processes detailed in the "blueprints." Our **Blueprint Reading for the Construction Industry** course utilizes lectures, hands-on demonstrations and lab exercises to familiarize participants with the art of blueprint reading. The course will review a set of both residential and commercial construction documents.

CAD-Specific Classes – After our Blueprint Reading classes, we begin our study of CAD, using **AutoCAD**. In the construction industry, knowing how to use AutoCAD is as valuable a skill as knowing how to use MS Office. AutoCAD is THE DEFACTO STANDARD used at all levels and by all disciplines in the construction industry - including facilities people, sound engineers, trades professionals and solar power people, to name a few. Our introductory, intermediate and advanced classes document two residential projects - from the ground up. By the completion of our AutoCAD series of classes, a complete set of construction documents will be built for a moderately complicated project – a project worthy of presentation during a job interview. The completed project includes a full set of construction documents, including details.

3D CAD-Specific Classes – After successfully working with the 2D aspects of AutoCAD, we begin our study of 3D modeling, using **AutoCAD**. AutoCAD is one of the leading software programs used to develop 3D models which are used for project prototyping, integration with industrial design programs such as Inventor, incorporation into BIM and also used in virtual environments created in 3ds Max and SketchUp. Our 3D modeling classes are specifically designed to provide the appropriate skillsets for the professional application and use of 3D models.

DAC - Digital Arts (Visualization)-Specific Classes – Most clients want both technical documentation on their projects and renderings and animations. SketchUp is a software program which is regularly used in the construction industry to create preliminary 3D designs for construction projects. 3ds Max is an incredible animation and rendering program which is used for construction renderings, animations, fly-throughs, product visualizations and even in the gaming and multi-media industries. We have carefully developed our training in SketchUp and 3dsMax courses to most effectively assist our students target their skills appropriately. We have also included Autodesk Impression, a presentation program regularly used by architects and designers to present their designs to regulatory agencies.

Mission & Objectives

The mission of Virtual Design and Construction Institute is to offer quality campus based and online certificate programs, to motivated adults who are able to work independently and in small groups and who may benefit from intensive instruction in various CAD, BIM and other Virtual Design software programs.

The Virtual Design and Construction Institute will provide students with an up-to-date curriculum which is both intellectually challenging, practical and appropriate for the professional and trades environments.

Part of our mission is to convey to students the importance of continuing education. We endeavor to sustain our course offerings by developing an operational environment that is professionally managed, competently supervised, continually evaluated and appropriately modified thereby providing course curriculum material that are kept current. Virtual Design and Construction Institute provides onsite and online AutoCAD, Revit, Autodesk Inventor, AutoCAD Civil 3D, Navisworks, 3ds Max, SketchUp and other Construction Industry-targeted software training.

In all programs and services, the Virtual Design and Construction Institute respects the value of diversity among students and faculty. Therefore, we encourage the participation of individuals from all nationalities, races, and colors.

Virtual Design and Construction Institute - Purpose Statement

The special character of this institution is reflected in its commitment to the study of Virtual Design and Construction (VDC) software, including CAD/BIM/Digital Prototyping and Visualization software programs. The purpose of the institution is to help students acquire competency in the use of Computer Aided Design, Building Information Modeling and other Virtual Design and Construction software.

Virtual Design and Construction Institute – Objectives

All programs at Virtual Design and Construction Institute have a set of stated objectives which continue to evolve as the sophistication of the design software evolves. Currently, the institution's objectives are to:

- Provide students with training in the use of architectural, structural, mechanical/electrical/plumbing and civil design software.
- Provide students with a professional atmosphere conducive to learning.
- Assure programs are delivered by highly qualified and experience instructors.
- Assure students obtain the skills and knowledge needed to improve their productivity and enhance their credibility in the workplace.

Architectural CAD Certificate

Students must complete 164 Hours of Required and Elective Courses

Course Number	Course Name	Number of Hours		
Required Courses				
Students must complete 120 Hours of Required Courses. Does not include prerequisites.				
PFC 101	Blueprint Reading for the Construction Industry	4		
CAD 101	Introduction to AutoCAD	24		
CAD 201	Intermediate AutoCAD	24		
CAD 301	CAD Construction Documents 1	24		
CAD 302	CAD Construction Documents 2	24		
CAD 304	CAD Project Management	16		
PFC 501	Certificate Completion Practical	4		
Elective Courses				
Students must complete at least 44 Hours of Elective Courses				
BIM 101	Introduction to Revit	16	Strongly Recommended	
BIM 201	Intermediate Revit	16	Strongly Recommended	
BIM 301	BIM Construction Documents 1	16		
BIM 302	BIM Construction Documents 2	16		
BIM 303	BIM Architectural Detailing	16		
BIM 304	BIM Project Management	16		
BIM 321	Revit MEP 1	24		
BIM 322	Revit MEP 2	16		
BIM 341	Revit Structure 1	16		
BIM 342	Revit Structure 2	16		
BIM 361	Navisworks 1	16		
BIM 362	Navisworks 2	16		
BIM 401	Autodesk Certification Test Prep	4		
BIM 402	BIM Special Studies	24		
BIM 404	Focused Topics	4		
CAD 303	CAD Architectural Detailing	16	Strongly Recommended	+
CAD 305	Introduction to 3D Modeling	24	Strongly Recommended	
CAD 306	Intermediate 3D Modeling	24		
CAD 401	Autodesk Certification Test Prep	4	Strongly Recommended	+
CAD 402	CAD Special Studies	24		

CAD 404	Focused Topics	4		
Civil 3D CAD 301	Introduction to Autodesk Civil 3D	24		
Civil 3D CAD 302	Intermediate Autodesk Civil 3D	24		
Civil 3D CAD 303	Autodesk Civil Construction Documents	24		
Civil 3D CAD 401	Autodesk Certification Test Prep	4		
Civil 3D CAD 402	Civil 3D Special Studies	24		
Civil 3D CAD 404	Focused Topics	4		
DAC 201	Introduction to 3ds Max	24	Strongly Recommended	+
DAC 202	Intermediate 3ds Max	24		
DAC 203	Advanced 3ds Max	24		
DAC 211	Introduction to SketchUp	16	Strongly Recommended	
DAC 212	Intermediate SketchUp	16		
DAC 221	Introduction to Photoshop	16		
DAC 222	Introduction to Autodesk Impression	16		
DAC 304	Project Management	16		
DAC 401	Autodesk Certification Test Prep	4		
DAC 402	DAC Special Studies	24		
DAC 404	Focused Topics	4		
GTC 102	Introduction to Sustainable Building Design	12	Strongly Recommended	
GTC 103	Intermediate Sustainable Building Design	12		
GTC 201	Advanced Sustainable Building Design	12		
GTC 202	Introduction to Energy Analysis	20		
GTC 402	Sustainable Design Special Studies	24		
GTC 404	Focused Topics	4		
PFC 101	Blueprint Reading for the Construction Industry	4	Strongly Recommended	

Requirements for Completion

To complete this program a student must attend a minimum of 90% of the scheduled hours of instruction, achieve an average score of 80% or greater on quizzes and exams, and pass an instructor monitored practical exam demonstrating competence in Construction Industry CAD.

Architectural BIM Certificate Program

Program Description – 164 Hours of Instruction

ARCHITECTURAL BUILDING INFORMATION MODELING (BIM)
There is an increasing demand for competent architectural/engineering/construction/design engineering technicians knowledgeable in the application and integration of architecturally-based BIM software. The BIM courses at the Virtual Design and Construction Institute provide students the opportunity to obtain a certificate in these areas. The classes are designed to provide students an opportunity to learn relevant skills and technical knowledge used in a variety of construction industry-focused disciplines. The curriculum is based on the current professional skill sets required by business. The lessons learned and exercises practiced are based on current, industry CAD and BIM required skills.

CAREER OPTIONS
The following list is a sample of disciplines that employ people with a strong, working knowledge of BIM skill sets. Some areas require that their employees have professional training and/or experience in addition to the technical training learned at the Virtual Design and Construction Institute:

Architects	Electrical Engineers	Mechanical Drafters
Architectural Drafters	Electrical Drafters	Mechanical Engineers
Construction Managers	Sustainable Design Professionals	MEP Trades People
Contractors	Interior Designers	Sustainable Design Professionals
Engineering Managers	LEED Professionals	Urban Planners

The **Architectural BIM Certificate** is designed to provide students with the skills and technical knowledge requested by employers using Computer-Aided Design (CAD) and Building Information Modeling (BIM) software. The certificate program focuses on the development of fundamental drafting and CAD and BIM skills and problem-solving strategies. Please see the Course Descriptions for further information on class content.

Our **Architectural BIM Certificate** curriculum is built around how architects, engineers, contractors and trades professionals use CAD (Computer Aided Drafting) and BIM (Building Information Modeling) in their businesses for project documentation.

There are five focus areas of study for this certificate:
(1) Fundamental Classes – Blueprint Reading
(2) CAD-specific classes – using AutoCAD
(3) BIM-specific classes – using Revit and Navisworks
(4) Digital Arts (Visualization)-specific classes – using 3dsMax and SketchUp
(5) Sustainable Design Technology classes – using GBS and Ecotect

PFC - Fundamental Classes - Understanding how to read a set of construction documents is of primary importance to anyone working on the construction industry. "Blueprint" is the historic name for construction drawings. Contractors would do their work implementing the design and construction

processes detailed in the "blueprints." Our **Blueprint Reading for the Construction Industry** course utilizes lectures, hands-on demonstrations and lab exercises to familiarize participants with the art of blueprint reading. The course will review a set of both residential and commercial construction documents.

CAD-Specific Classes – After our Blueprint Reading classes, we begin our study of CAD, using **AutoCAD**. In the construction industry, knowing how to use AutoCAD is as valuable a skill as knowing how to use MS Office. AutoCAD is THE DEFACTO STANDARD used at all levels and by all disciplines in the construction industry - including facilities people, sound engineers, trades professionals and solar power people, to name a few. Our introductory, intermediate and advanced classes document two residential projects - from the ground up. By the completion of our AutoCAD series of classes, a complete set of construction documents will be built for a moderately complicated project – a project worthy of presentation during a job interview. The completed project includes a full set of construction documents, including details.

BIM-Specific Classes – After learning AutoCAD, our students expand their knowledge base into the realm of Building Information Modeling (BIM). **Revit** is the industry standard software program for BIM. In Revit, you create a 3D model of a project and extract the construction documents directly from the BIM model. All of our Revit classes are linked together, so a student constantly builds on lessons learned in the previous classes. By the completion of our Revit series of classes, a complete set of construction documents will be built for a moderately complicated commercial project. Today, Government, Military, Hospital, Education and other similarly-scaled projects require that their work be completed in Revit (BIM).

It is becoming increasingly common for construction managers to run 3D interference checks on the Revit model using **Navisworks**. For example, Navisworks analyzes where the mechanical, plumbing, structural and other disciplines' design work are occupying the same location in the building. By identifying these interferences during design, significant dollars are saved during construction, and change orders are significantly reduced. Today, most Government, Military, Hospital, Education and other similarly-scaled projects require that their work be analyzed in Navisworks.

DAC - Digital Arts (Visualization)-Specific Classes – Most clients want both technical documentation on their projects and renderings and animations. SketchUp is a software program which is regularly used in the construction industry to create preliminary 3D designs for construction projects. 3ds Max is an incredible animation and rendering program which is used for construction renderings, animations, fly-throughs, product visualizations and even in the gaming and multi-media industries. We have carefully developed our training in SketchUp and 3dsMax courses to most effectively assist our students target their skills appropriately. We have also included Autodesk Impression, a presentation program regularly used by architects and designers to present their designs to regulatory agencies. We have also included Autodesk Impression, a presentation program regularly used by architects and designers to present their designs to regulatory agencies.

GTC - Sustainable Design Technology-Specific Classes – After learning Revit and Navisworks, our students expand their knowledge base into the realm of Sustainable Design. **Green Building Studio (GBS)** and **Ecotect** are the leading, industry standard software programs for Sustainable Design/Sustainable Technology. In both GBS and Ecotect, you develop and analyze your Revit

model and conduct your energy analysis directly from the BIM model. All of our BIM and Sustainable Design Technology classes are linked together, so a student constantly builds on lessons learned in the previous classes.

Mission & Objectives

The mission of Virtual Design and Construction Institute is to offer quality campus based and online certificate programs, to motivated adults who are able to work independently and in small groups and who may benefit from intensive instruction in various CAD, BIM and other Virtual Design software programs.

The Virtual Design and Construction Institute will provide students with an up-to-date curriculum which is both intellectually challenging, practical and appropriate for the professional and trades environments.

Part of our mission is to convey to students the importance of continuing education. We endeavor to sustain our course offerings by developing an operational environment that is professionally managed, competently supervised, continually evaluated and appropriately modified thereby providing course curriculum material that are kept current. Virtual Design and Construction Institute provides onsite and online AutoCAD, Revit, Autodesk Inventor, AutoCAD Civil 3D, Navisworks, 3ds Max, SketchUp and other Construction Industry-targeted software training.

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- Assure programs are delivered by highly qualified and experience instructors.
- Assure students obtain the skills and knowledge needed to improve their productivity and enhance their credibility in the workplace.

Architectural BIM Certificate

Students must complete 160 Hours of Required and Elective Courses

Course Number	Course Name	Number of Hours		
Required Courses				
Students must complete 140 Hours of Required BIM Courses. Does not include prerequisites.				
BIM 101	Introduction to Revit	16		
BIM 201	Intermediate Revit	16		
BIM 301	BIM Construction Documents 1	16		
BIM 302	BIM Construction Documents 2	16		
BIM 303	BIM Architectural Detailing	16		
BIM 304	BIM Project Management	16		
BIM 321	Revit MEP 1	24		
BIM 361	Navisworks 1	16		
PFC 501	Certificate Completion Practical	4		
Elective Courses				
Students must complete at least 20 Hours of Elective Courses				
BIM 322	Revit MEP 2	16		
BIM 341	Revit Structure 1	16	Strongly Recommended	+
BIM 342	Revit Structure 2	16		
BIM 362	Navisworks 2	16		
BIM 401	Autodesk Certification Test Prep	4	Strongly Recommended	+
BIM 402	BIM Special Studies	24		
BIM 404	Focused Topics	4		
CAD 101	Introduction to AutoCAD	24		
CAD 201	Intermediate AutoCAD	24		
CAD 301	CAD Construction Documents 1	24		
CAD 302	CAD Construction Documents 2	24		
CAD 303	CAD Architectural Detailing	16		
CAD 304	CAD Project Management	16		
CAD 305	Introduction to 3D Modeling	24		
CAD 306	Intermediate 3D Modeling	24		
CAD 401	Autodesk Certification Test Prep	4		
CAD 402	CAD Special Studies	24		

CAD 404	Focused Topics	4	
Civil 3D CAD 301	Introduction to Autodesk Civil 3D	24	
Civil 3D CAD 302	Intermediate Autodesk Civil 3D	24	
Civil 3D CAD 303	Autodesk Civil Construction Documents	24	
Civil 3D CAD 401	Autodesk Certification Test Prep	4	
Civil 3D CAD 402	Civil 3D Special Studies	24	
Civil 3D CAD 404	Focused Topics	4	
DAC 201	Introduction to 3ds Max	24	Strongly Recommended
DAC 202	Intermediate 3ds Max	24	
DAC 203	Advanced 3ds Max	24	
DAC 211	Introduction to SketchUp	16	Strongly Recommended
DAC 212	Intermediate SketchUp	16	
DAC 221	Introduction to Photoshop	16	
DAC 222	Introduction to Autodesk Impression	16	
DAC 304	Project Management	16	
DAC 401	Autodesk Certification Test Prep	4	
DAC 402	DAC Special Studies	24	
DAC 404	Focused Topics	4	
GTC 102	Introduction to Sustainable Building Design	12	Strongly Recommended
GTC 103	Intermediate Sustainable Building Design	12	
GTC 201	Advanced Sustainable Building Design	12	
GTC 202	Introduction to Energy Analysis	20	
GTC 402	Sustainable Design Special Studies	24	
GTC 404	Focused Topics	4	
PFC 101	Blueprint Reading for the Construction Industry	4	Strongly Recommended

Requirements for Completion

To complete this program a student must attend a minimum of 90% of the scheduled hours of instruction, achieve an average score of 80% or greater on quizzes and exams, and pass an instructor monitored practical exam demonstrating competence in Construction Industry BIM.

Digital Arts (Visualization) Certificate Program

Program Description – 160 Hours of Instruction

DIGITAL ARTS (VISUALIZATION) SOFTWARE
There is a strong demand for competent architectural/engineering/construction/design and engineering technicians knowledgeable in the application and integration of architecturally-based digital arts (visualization) software, in addition to their more typical uses of CAD and BIM software. The digital arts software technology courses at the Virtual Design and Construction Institute provide students the opportunity to obtain a certificate in these areas. The classes are designed to provide students an opportunity to learn relevant skills and technical knowledge used in applying visualization software to a variety of construction industry-focused disciplines. The curriculum is based on the current professional skill sets required by business. The lessons learned and exercises practiced are based on current, industry digital arts/visualization-focused skill sets.

People doing visualization work in the construction industry need to understand the relationship between plan, elevation and section views of components to be modeled. For that reason, we start our visualization certificate program with our blueprint reading course. We then have people learn basic AutoCAD and also 3D modeling in AutoCAD. From there, they develop their animation and rendering skills using SketchUp and 3ds Max, which are the leading software tools used to create a range of renderings and animations.

CAREER OPTIONS
The following list is a sample of disciplines that employ people with a strong, working knowledge of Visualization software skill sets. Some areas require that their employees have professional training and/or experience in addition to the technical training learned at the Virtual Design and Construction Institute:

Advertising/Promotion Mgrs	Engineering Managers	Landscape Architects & Designers
Architects	Fashion Designers	Store & Trade Show Designers
Art Directors	Graphic Designers	Real Estate Managers
Biomedical Engineers	Industrial Designers	Theatre/Stage/Set Designers
Civil Engineers	Interior Designers	Urban Planners

Our **Digital Arts (Visualization) Certificate** curriculum is built around how architects, engineers, contractors and trades professionals use CAD (Computer Aided Drafting) and BIM (Building Information Modeling) in their businesses for project documentation.

There are six focus areas of study for this certificate:
(1) Fundamental Classes – Blueprint Reading
(2) CAD-specific classes – using AutoCAD
(3) 3D CAD-specific classes – using AutoCAD
(4) Digital Arts (Visualization)-specific classes – using 3dsMax and SketchUp
(5) BIM-specific classes – using Revit and Navisworks
(6) Civil/Infrastructure-specific classes – using Civil 3D

PFC - Fundamental Classes - Understanding how to read a set of construction documents is of primary importance to anyone working on the construction industry. "Blueprint" is the historic name for construction drawings. Contractors would do their work implementing the design and construction processes detailed in the "blueprints." Our **Blueprint Reading for the Construction Industry** course utilizes lectures, hands-on demonstrations and lab exercises to familiarize participants with the art of blueprint reading. The course will review a set of both residential and commercial construction documents.

CAD-Specific Classes – After our Blueprint Reading classes, we begin our study of CAD, using **AutoCAD**. In the construction industry, knowing how to use AutoCAD is as valuable a skill as knowing how to use MS Office. AutoCAD is THE DEFACTO STANDARD used at all levels and by all disciplines in the construction industry - including facilities people, sound engineers, trades professionals and solar power people, to name a few. Our introductory, intermediate and advanced classes document two residential projects - from the ground up. By the completion of our AutoCAD series of classes, a complete set of construction documents will be built for a moderately complicated project – a project worthy of presentation during a job interview. The completed project includes a full set of construction documents, including details.

3D CAD-Specific Classes – After successfully working with the 2D aspects of AutoCAD, we begin our study of 3D modeling, using **AutoCAD**. AutoCAD is one of the leading software programs used to develop 3D models which are used for project prototyping, integration with industrial design programs such as Inventor, incorporation into BIM and also used in virtual environments created in 3ds Max and SketchUp. Our 3D modeling classes are specifically designed to provide the appropriate skillsets for the professional application and use of 3D models.

DAC - Digital Arts (Visualization)-Specific Classes – Most clients want both technical documentation on their projects and renderings and animations. SketchUp is a software program which is regularly used in the construction industry to create preliminary 3D designs for construction projects. 3ds Max is an incredible animation and rendering program which is used for construction renderings, animations, fly-throughs, product visualizations and even in the gaming and multi-media industries. We have carefully developed our training in SketchUp and 3dsMax courses to most effectively assist our students target their skills appropriately. We have also included Autodesk Impression, a presentation program regularly used by architects and designers to present their designs to regulatory agencies.

BIM-Specific Classes – After learning AutoCAD, our students expand their knowledge base into the realm of Building Information Modeling (BIM). **Revit** is the industry standard software program for BIM. In Revit, you create a 3D model of a project and extract the construction documents directly from the BIM model. All of our Revit classes are linked together, so a student constantly builds on lessons learned in the previous classes. By the completion of our Revit series of classes, a complete set of construction documents will be built for a moderately complicated commercial project. Today, Government, Military, Hospital, Education and other similarly-scaled projects require that their work be completed in Revit (BIM).

Civil 3D CAD - Civil/Infrastructure-Specific Classes – These classes focus on the specific technologies appropriate to current and projected skill set requirements for the development and refurbishing of our infrastructure system and also towards site development. Students are exposed to public 3D/virtual databases and learn about 3D data management and project file sharing through web-based technologies such as project FTP, MILCON, and city/state/national databases. Coursework integrates with CALTRANS and other public agency requirements and databases.

Mission & Objectives

The mission of Virtual Design and Construction Institute is to offer quality campus based and online certificate programs, to motivated adults who are able to work independently and in small groups and who may benefit from intensive instruction in various CAD, BIM and other Virtual Design software programs.

The Virtual Design and Construction Institute will provide students with an up-to-date curriculum which is both intellectually challenging, practical and appropriate for the professional and trades environments.

Part of our mission is to convey to students the importance of continuing education. We endeavor to sustain our course offerings by developing an operational environment that is professionally managed, competently supervised, continually evaluated and appropriately modified thereby providing course curriculum material that are kept current. Virtual Design and Construction Institute provides onsite and online AutoCAD, Revit, Autodesk Inventor, AutoCAD Civil 3D, Navisworks, 3ds Max, SketchUp and other Construction Industry-targeted software training.

In all programs and services, the Virtual Design and Construction Institute respects the value of diversity among students and faculty. Therefore, we encourage the participation of individuals from all nationalities, races, and colors.

Virtual Design and Construction Institute - Purpose Statement

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Virtual Design and Construction Institute – Objectives

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- Provide students with training in the use of architectural, structural, mechanical/electrical/plumbing and civil design software.
- Provide students with a professional atmosphere conducive to learning.
- Assure programs are delivered by highly qualified and experience instructors.
- Assure students obtain the skills and knowledge needed to improve their productivity and enhance their credibility in the workplace.

DAC - Digital Arts/Visualization Certificate

Students must complete 160 Hours of Required and Elective Courses

Course Number	Course Name	Number of Hours		
Required Courses				
Students must complete 124 Hours of Required DAC Courses. Does not include prerequisites.				
DAC 201	Introduction to 3ds Max	24		
DAC 202	Intermediate 3ds Max	24		
DAC 203	Advanced 3ds Max	24		
DAC 211	Introduction to SketchUp	16		
DAC 212	Intermediate SketchUp	16		
DAC 221	Introduction to Photoshop	16		
PFC 501	Certificate Completion Practical	4		
Elective Courses				
Students must complete at least 36 Hours of Elective Courses				
BIM 101	Introduction to Revit	16	Strongly Recommended	+
BIM 201	Intermediate Revit	16	Strongly Recommended	+
BIM 301	BIM Construction Documents 1	16		
BIM 302	BIM Construction Documents 2	16		
BIM 303	BIM Architectural Detailing	16		
BIM 304	BIM Project Management	16		
BIM 321	Revit MEP 1	24		
BIM 322	Revit MEP 2	16		
BIM 341	Revit Structure 1	16		
BIM 342	Revit Structure 2	16		
BIM 361	Navisworks 1	16		
BIM 362	Navisworks 2	16		
BIM 401	Autodesk Certification Test Prep	4		
BIM 402	BIM Special Studies	24		
BIM 404	Focused Topics	4		
CAD 101	Introduction to AutoCAD	24	Strongly Recommended	
CAD 201	Intermediate AutoCAD	24		
CAD 301	CAD Construction Documents 1	24		
CAD 302	CAD Construction Documents 2	24		
CAD 303	CAD Architectural Detailing	16		

CAD 304	CAD Project Management	16	
CAD 305	Introduction to 3D Modeling	24	Strongly Recommended
CAD 306	Intermediate 3D Modeling	24	
CAD 401	Autodesk Certification Test Prep	4	
CAD 402	CAD Special Studies	24	
CAD 404	Focused Topics	4	
Civil 3D CAD 301	Introduction to Autodesk Civil 3D	24	Strongly Recommended
Civil 3D CAD 302	Intermediate Autodesk Civil 3D	24	
Civil 3D CAD 303	Autodesk Civil Construction Documents	24	
Civil 3D CAD 401	Autodesk Certification Test Prep	4	
Civil 3D CAD 402	Civil 3D Special Studies	24	
Civil 3D CAD 404	Focused Topics	4	
DAC 222	Introduction to Autodesk Impression	16	
DAC 304	Project Management	16	Strongly Recommended
DAC 401	Autodesk Certification Test Prep	4	Strongly Recommended
DAC 402	DAC Special Studies	24	
DAC 404	Focused Topics	4	
GTC 102	Introduction to Sustainable Building Design	12	
GTC 103	Intermediate Sustainable Building Design	12	
GTC 201	Advanced Sustainable Building Design	12	
GTC 202	Introduction to Energy Analysis	20	
GTC 402	Sustainable Design Special Studies	24	
GTC 404	Focused Topics	4	
PFC 101	Blueprint Reading for the Construction Industry	4	Strongly Recommended

Requirements for Completion

To complete this program a student must attend a minimum of 90% of the scheduled hours of instruction, achieve an average score of 80% or greater on quizzes and exams, and pass an instructor monitored practical exam demonstrating competence in Construction Industry Digital Arts/Visualization.

3D CAD Certificate Program

Program Description – 164 Hours of Instruction

3D CAD
Today, and for the foreseeable future, there is a growing demand for competent architectural/engineering/construction/design engineering technicians knowledgeable in the application and integration of architecturally-based 3D CAD software programs. The 3D CAD courses at the Virtual Design and Construction Institute provide students the opportunity to obtain a certificate in these areas. The classes are designed to provide students an opportunity to learn relevant skills and technical knowledge used in a variety of construction industry-focused disciplines. The curriculum is based on the current professional skill sets required by businesses. The lessons learned and exercises practiced are based on current, industry 3D CAD-required skills.

The core of our 3D CAD Certificate curriculum provides significant exposure to the important concepts of 3D modeling. Students are provided the flexibility of directing their 3D studies towards the Construction Industry, Industrial Design/Manufacturing industry or the Visualization and/or Gaming industries.

Students learn to model in AutoCAD, Inventor, 3ds Max, SketchUp and/or Navisworks (depending on the elective courses chosen). As a special benefit for their portfolio, students are encouraged to participate in the Customized Project classes to allow them to develop 3D modeling projects which specifically relate to their chosen profession.

CAREER OPTIONS
The following list is a sample of disciplines that employ people with a strong, working knowledge of CAD, BIM and Visualization 3D Modeling skill sets. Some areas require that their employees have professional training and/or experience in addition to the technical training learned at the Virtual Design and Construction Institute:

- Architects
- Architectural Drafters
- BIM Modelers
- Commercial Designers
- Engineering Managers
- Electrical Engineers
- Electrical Drafters
- Industrial Designers
- Interior Designers
- Mechanical Drafters
- Mechanical Engineers
- Photovoltaic/Solar Engineers
- Real Estate Managers
- Sound Engineer Professionals
- Urban Planners

The **3D CAD Certificate** is designed to provide students with the skills and technical knowledge requested by employers using Computer-Aided Design (CAD) and Building Information Modeling (BIM) software. The certificate program focuses on the development of fundamental drafting and CAD and BIM skills and problem-solving strategies. Please see the Course Descriptions for further information on class content.

Our **3D CAD Certificate** curriculum is built around how architects, engineers, contractors and trades professionals use CAD (Computer Aided Drafting) and BIM (Building Information Modeling) in their businesses for project documentation.

There are five focus areas of study for this certificate:
(1) Fundamental Classes – Blueprint Reading
(2) CAD-specific classes – using AutoCAD
(3) 3D CAD-specific classes – using AutoCAD
(4) Digital Arts (Visualization)-specific classes – using 3dsMax and SketchUp
(5) Civil/Infrastructure-specific classes – using Civil 3D

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Virtual Design and Construction Institute – Objectives

All programs at Virtual Design and Construction Institute have a set of stated objectives which continue to evolve as the sophistication of the design software evolves. Currently, the institution's objectives are to:

- Provide students with training in the use of architectural, structural, mechanical/electrical/plumbing and civil design software.
- Provide students with a professional atmosphere conducive to learning.
- Assure programs are delivered by highly qualified and experience instructors.
- Assure students obtain the skills and knowledge needed to improve their productivity and enhance their credibility in the workplace.

3D CAD Certificate

Students must complete 160 Hours of Required and Elective Courses

Course Number	Course Name	Number of Hours		
Required Courses				
Students must complete 140 Hours of Required Courses. Does not include prerequisites.				
CAD 101	Introduction to AutoCAD	24		
CAD 305	Introduction to 3D Modeling	24		
CAD 306	Intermediate 3D Modeling	24		
BIM 101	Introduction to Revit	16		
DAC 201	Introduction to 3ds Max	24		
DAC 202	Intermediate 3ds Max	24		
PFC 501	Certificate Completion Practical	4		
Elective Courses				
Students must complete at least 20 Hours of Elective Courses				
BIM 201	Intermediate Revit	16	Strongly Recommended	
BIM 301	BIM Construction Documents 1	16		
BIM 302	BIM Construction Documents 2	16		
BIM 303	BIM Architectural Detailing	16		
BIM 304	BIM Project Management	16		
BIM 321	Revit MEP 1	24		
BIM 322	Revit MEP 2	16		
BIM 341	Revit Structure 1	16		
BIM 342	Revit Structure 2	16		
BIM 361	Navisworks 1	16	Strongly Recommended	
BIM 362	Navisworks 2	16		
BIM 401	Autodesk Certification Test Prep	4		
BIM 402	BIM Special Studies	24		
BIM 404	Focused Topics	4		
CAD 201	Intermediate AutoCAD	24	Strongly Recommended	
CAD 301	CAD Construction Documents 1	24		
CAD 302	CAD Construction Documents 2	24		
CAD 303	CAD Architectural Detailing	16		
CAD 304	CAD Project Management	16		
CAD 401	Autodesk Certification Test Prep	4	Strongly Recommended	+

CAD 402	CAD Special Studies	24		
CAD 404	Focused Topics	4		
Civil 3D CAD 301	Introduction to Autodesk Civil 3D	24	Strongly Recommended	
Civil 3D CAD 302	Intermediate Autodesk Civil 3D	24		
Civil 3D CAD 303	Autodesk Civil Construction Documents	24		
Civil 3D CAD 401	Autodesk Certification Test Prep	4		
Civil 3D CAD 402	Civil 3D Special Studies	24		
Civil 3D CAD 404	Focused Topics	4		
DAC 203	Advanced 3ds Max	24	Strongly Recommended	
DAC 211	Introduction to SketchUp	16	Strongly Recommended	+
DAC 212	Intermediate SketchUp	16		
DAC 221	Introduction to Photoshop	16		
DAC 222	Introduction to Autodesk Impression	16		
DAC 304	Project Management	16		
DAC 401	Autodesk Certification Test Prep	4		
DAC 402	DAC Special Studies	24		
DAC 404	Focused Topics	4		
GTC 102	Introduction to Sustainable Building Design	12	Strongly Recommended	
GTC 103	Intermediate Sustainable Building Design	12		
GTC 201	Advanced Sustainable Building Design	12		
GTC 202	Introduction to Energy Analysis	20		
GTC 402	Sustainable Design Special Studies	24		
GTC 404	Focused Topics	4		
PFC 101	Blueprint Reading for the Construction Industry	4	Strongly Recommended	

Requirements for Completion

To complete this program a student must attend a minimum of 90% of the scheduled hours of instruction, achieve an average score of 80% or greater on quizzes and exams, and pass an instructor monitored practical exam demonstrating competence in Construction Industry 3D CAD.

Civil 3D Certificate Program

Program Description – 164 Hours of Instruction

CIVIL 3D CAD
In today's environment of infrastructure improvement, there is a growing demand for competent engineering/construction/design engineering technicians knowledgeable in the application and integration of civil engineering-based Civil 3D CAD software programs. The Civil 3D courses at the Virtual Design and Construction Institute provide students the opportunity to obtain a certificate in these areas. The classes are designed to provide students an opportunity to learn relevant skills and technical knowledge used in a variety of construction industry-focused disciplines. The curriculum is based on the current professional skill sets required by offices specializing in infrastructure improvement and civil engineering. The lessons learned and exercises practiced are based on current, industry Civil 3D CAD-required skills.

CAREER OPTIONS
The following list is a sample of disciplines that employ people with a strong, working knowledge of Civil (Engineering) CAD skill sets. Some areas require that their employees have professional training and/or experience in addition to the technical training learned at the Virtual Design and Construction Institute:

CALTRANS Staff	Electrical Engineers	Site Surveyors
Civil Engineering Drafters	Facilities Engineers	Storm Water Engineers
Civil Engineers	Infrastructure Engineers	Transportation Engineers
Construction Managers	Mass Transit Engineers	Urban Planners
Coastal Commission Engineers	Mechanical Engineers	Utilities Engineers

The **Civil 3D Certificate** is designed to provide students with the skills and technical knowledge requested by employers using Computer-Aided Design (CAD) and Building Information Modeling (BIM) software. The certificate program focuses on the development of fundamental drafting and CAD and BIM skills and problem-solving strategies. Please see the Course Descriptions for further information on class content.

Our **Civil 3D Certificate** curriculum is built around how architects, engineers, contractors and trades professionals use CAD (Computer Aided Drafting) and BIM (Building Information Modeling) in their businesses for project documentation.

There are four focus areas of study for this certificate:
(1) Fundamental Classes – Blueprint Reading
(2) CAD-specific classes – using AutoCAD
(3) 3D CAD-specific classes – using AutoCAD
(4) Civil/Infrastructure-specific classes – using Civil 3D

PFC - Fundamental Classes - Understanding how to read a set of construction documents is of primary importance to anyone working on the construction industry. "Blueprint" is the historic name for construction drawings. Contractors would do their work implementing the design and construction processes detailed in the "blueprints." Our **Blueprint Reading for the Construction Industry** course utilizes lectures, hands-on demonstrations and lab exercises to familiarize participants with the art of blueprint reading. The course will review a set of both residential and commercial construction documents.

CAD-Specific Classes – After our Blueprint Reading classes, we begin our study of CAD, using **AutoCAD**. In the construction industry, knowing how to use AutoCAD is as valuable a skill as knowing how to use MS Office. AutoCAD is THE DEFACTO STANDARD used at all levels and by all disciplines in the construction industry - including facilities people, sound engineers, trades professionals and solar power people, to name a few. Our introductory, intermediate and advanced classes document two residential projects - from the ground up. By the completion of our AutoCAD series of classes, a complete set of construction documents will be built for a moderately complicated project – a project worthy of presentation during a job interview. The completed project includes a full set of construction documents, including details.

3D CAD-Specific Classes – After successfully working with the 2D aspects of AutoCAD, we begin our study of 3D modeling, using **AutoCAD**. AutoCAD is one of the leading software programs used to develop 3D models which are used for project prototyping, integration with industrial design programs such as Inventor, incorporation into BIM and also used in virtual environments created in 3ds Max and SketchUp. Our 3D modeling classes are specifically designed to provide the appropriate skillsets for the professional application and use of 3D models.

Civil 3D CAD - Civil/Infrastructure-Specific Classes – These classes focus on the specific technologies appropriate to current and projected skill set requirements for the development and refurbishing of our infrastructure system and also towards site development. Students are exposed to public 3D/virtual databases and learn about 3D data management and project file sharing through web-based technologies such as project FTP, MILCON, and city/state/national databases. Coursework integrates with CALTRANS and other public agency requirements and databases.

Digital Arts (Visualization)-Specific Classes – Most clients want both technical documentation on their projects and renderings and animations. SketchUp is a software program which is regularly used in the construction industry to create preliminary 3D designs for construction projects. 3ds Max is an incredible animation and rendering program which is used for construction renderings, animations, fly-throughs, product visualizations and even in the gaming and multi-media industries. We have carefully developed our training in SketchUp and 3dsMax courses to most effectively assist our students target their skills appropriately. We have also included Autodesk Impression, a presentation program regularly used by architects and designers to present their designs to regulatory agencies.

Mission & Objectives

The mission of Virtual Design and Construction Institute is to offer quality campus based and online certificate programs, to motivated adults who are able to work independently and in small groups and who may benefit from intensive instruction in various CAD, BIM and other Virtual Design software programs.

The Virtual Design and Construction Institute will provide students with an up-to-date curriculum which is both intellectually challenging, practical and appropriate for the professional and trades environments.

Part of our mission is to convey to students the importance of continuing education. We endeavor to sustain our course offerings by developing an operational environment that is professionally managed, competently supervised, continually evaluated and appropriately modified thereby providing course curriculum material that are kept current. Virtual Design and Construction Institute provides onsite and online AutoCAD, Revit, Autodesk Inventor, AutoCAD Civil 3D, Navisworks, 3ds Max, SketchUp and other Construction Industry-targeted software training.

In all programs and services, the Virtual Design and Construction Institute respects the value of diversity among students and faculty. Therefore, we encourage the participation of individuals from all nationalities, races, and colors.

Virtual Design and Construction Institute - Purpose Statement

The special character of this institution is reflected in its commitment to the study of Virtual Design and Construction (VDC) software, including CAD/BIM/Digital Prototyping and Visualization software programs. The purpose of the institution is to help students acquire competency in the use of Computer Aided Design, Building Information Modeling and other Virtual Design and Construction software.

Virtual Design and Construction Institute – Objectives

All programs at Virtual Design and Construction Institute have a set of stated objectives which continue to evolve as the sophistication of the design software evolves. Currently, the institution's objectives are to:

- Provide students with training in the use of architectural, structural, mechanical/electrical/plumbing and civil design software.
- Provide students with a professional atmosphere conducive to learning.
- Assure programs are delivered by highly qualified and experience instructors.
- Assure students obtain the skills and knowledge needed to improve their productivity and enhance their credibility in the workplace.

Civil 3D CAD Certificate

Students must complete 152 Hours of Required and Elective Courses

Course Number	Course Name	Number of Hours		
Required Courses				
Students must complete 124 Hours of Required Courses. Does not include prerequisites.				
CAD 101	Introduction to AutoCAD	24		
CAD 201	Intermediate AutoCAD	24		
Civil 3D CAD 301	Introduction to Autodesk Civil 3D	24		
Civil 3D CAD 302	Intermediate Autodesk Civil 3D	24		
Civil 3D CAD 303	Autodesk Civil 3D Construction Documents	24		
PFC 501	Certificate Completion Practical	4		
Elective Courses				
Students must complete at least 28 Hours of Elective Courses				
BIM 101	Introduction to Revit	16		
BIM 201	Intermediate Revit	16		
BIM 301	BIM Construction Documents 1	16		
BIM 302	BIM Construction Documents 2	16		
BIM 303	BIM Architectural Detailing	16		
BIM 304	BIM Project Management	16		
BIM 321	Revit MEP 1	24		
BIM 322	Revit MEP 2	16		
BIM 341	Revit Structure 1	16		
BIM 342	Revit Structure 2	16		
BIM 361	Navisworks 1	16		
BIM 362	Navisworks 2	16		
BIM 401	Autodesk Certification Test Prep	4		
BIM 402	BIM Special Studies	24		
BIM 404	Focused Topics	4		
CAD 301	CAD Construction Documents 1	24	Strongly Recommended	+
CAD 302	CAD Construction Documents 2	24		
CAD 303	CAD Architectural Detailing	16		
CAD 304	CAD Project Management	16		
CAD 305	Introduction to 3D Modeling	24	Strongly Recommended	
CAD 306	Intermediate 3D Modeling	24		

CAD 401	Autodesk Certification Test Prep	4	Strongly Recommended	
CAD 402	CAD Special Studies	24		
CAD 404	Focused Topics	4		
Civil 3D CAD 401	Autodesk Certification Test Prep	4	Strongly Recommended	+
Civil 3D CAD 402	Civil 3D Special Studies	24	Strongly Recommended	
Civil 3D CAD 404	Focused Topics	4		
DAC 201	Introduction to 3ds Max	24		
DAC 202	Intermediate 3ds Max	24		
DAC 203	Advanced 3ds Max	24		
DAC 211	Introduction to SketchUp	16	Strongly Recommended	
DAC 212	Intermediate SketchUp	16		
DAC 221	Introduction to Photoshop	16		
DAC 222	Introduction to Autodesk Impression	16		
DAC 304	Project Management	16		
DAC 401	Autodesk Certification Test Prep	4		
DAC 402	DAC Special Studies	24		
DAC 404	Focused Topics	4		
GTC 102	Introduction to Sustainable Building Design	12		
GTC 103	Intermediate Sustainable Building Design	12		
GTC 201	Advanced Sustainable Building Design	12		
GTC 202	Introduction to Energy Analysis	20		
GTC 402	Sustainable Design Special Studies	24		
GTC 404	Focused Topics	4		
PFC 101	Blueprint Reading for the Construction Industry	4	Strongly Recommended	

Requirements for Completion

To complete this program a student must attend a minimum of 90% of the scheduled hours of instruction, achieve an average score of 80% or greater on quizzes and exams, and pass an instructor monitored practical exam demonstrating competence in Construction Industry Civil 3D.

Sustainable Design Technology Certificate Program

Program Description – 164 Hours of Instruction

SUSTAINABLE DESIGN TECHNOLOGY
In today's environment, there is increasing demand requirement for use of Sustainable Design Technology to ensure sustainable construction and life-cycle support of the built environment. There is a very strong demand for competent engineering/construction/design engineering technicians knowledgeable in the application and integration of Sustainable Design/Sustainable Design-based software programs. The Sustainable Design Technology courses at the Virtual Design and Construction Institute provide students the opportunity to obtain a certificate in these areas. The classes are designed to provide students an opportunity to learn relevant skills and technical knowledge used in a variety of construction industry-focused disciplines. The curriculum is based on the current professional skill sets required by offices augmenting their standard construction-based practices with emphasis on Sustainable Design Technology solutions. The lessons learned and exercises practiced are based on current, industry-required skills in Sustainable Design Technology.

CAREER OPTIONS
The following list is a sample of disciplines that employ people with a strong, working knowledge of Sustainable Design Technology skill sets. Some areas require that their employees have professional training and/or experience in addition to the technical training learned at the Virtual Design and Construction Institute:

Architects	Engineering Managers	Mechanical Engineers
Architectural Drafters	Electrical Engineers	MEP Project Managers
Architectural Project Managers	Electrical Drafters	Structural Engineers
BIM Facilitators	Sustainable Design/LEED Pjt. Managers	Structural Project Managers
Construction Managers	Mechanical Drafters	Urban Planners

The **Sustainable Design Technology Certificate** is designed to provide students with the skills and technical knowledge requested by employers using Computer-Aided Design (CAD) and Building Information Modeling (BIM) software. The certificate program focuses on the development of fundamental drafting and CAD and BIM skills and problem-solving strategies. Please see the Course Descriptions for further information on class content.

Our **Sustainable Design Technology Certificate** curriculum is built around how architects, engineers, contractors and trades professionals use CAD (Computer Aided Drafting) and BIM (Building Information Modeling) in their businesses for project documentation.

There are five focus areas of study for this certificate:
(1) Fundamental classes – Blueprint Reading
(2) CAD-specific classes – using AutoCAD
(3) BIM-specific classes – using Revit and Navisworks

(4) Digital Arts (Visualization)-specific classes – using 3dsMax and SketchUp
(5) Sustainable Design Technology-specific classes – using GBS and Ecotect

PFC - Fundamental Classes - Understanding how to read a set of construction documents is of primary importance to anyone working on the construction industry. "Blueprint" is the historic name for construction drawings. Contractors would do their work implementing the design and construction processes detailed in the "blueprints." Our **Blueprint Reading for the Construction Industry** course utilizes lectures, hands-on demonstrations and lab exercises to familiarize participants with the art of blueprint reading. The course will review a set of both residential and commercial construction documents.

CAD-Specific Classes – After our Blueprint Reading classes, we begin our study of CAD, using **AutoCAD**. In the construction industry, knowing how to use AutoCAD is as valuable a skill as knowing how to use MS Office. AutoCAD is THE DEFACTO STANDARD used at all levels and by all disciplines in the construction industry - including facilities people, sound engineers, trades professionals and solar power people, to name a few. Our introductory, intermediate and advanced classes document two residential projects - from the ground up. By the completion of our AutoCAD series of classes, a complete set of construction documents will be built for a moderately complicated project – a project worthy of presentation during a job interview. The completed project includes a full set of construction documents, including details.

BIM-Specific Classes – After learning AutoCAD, our students expand their knowledge base into the realm of Building Information Modeling (BIM). **Revit** is the industry standard software program for BIM. In Revit, you create a 3D model of a project and extract the construction documents directly from the BIM model. All of our Revit classes are linked together, so a student constantly builds on lessons learned in the previous classes. By the completion of our Revit series of classes, a complete set of construction documents will be built for a moderately complicated commercial project. Today, Government, Military, Hospital, Education and other similarly-scaled projects require that their work be completed in Revit (BIM).

It is becoming increasingly common for construction managers to run 3D interference checks on the Revit model using **Navisworks**. For example, Navisworks analyzes where the mechanical, plumbing, structural and other disciplines' design work are occupying the same location in the building. By identifying these interferences during design, significant dollars are saved during construction, and change orders are significantly reduced. Today, most Government, Military, Hospital, Education and other similarly-scaled projects require that their work be analyzed in Navisworks.

Digital Arts (Visualization)-Specific Classes – Most clients want both technical documentation on their projects and renderings and animations. SketchUp is a software program which is regularly used in the construction industry to create preliminary 3D designs for construction projects. 3ds Max is an incredible animation and rendering program which is used for construction renderings, animations, fly-throughs, product visualizations and even in the gaming and multi-media industries. We have carefully developed our training in SketchUp and 3dsMax courses to most effectively assist our students target their skills appropriately. We have also included Autodesk Impression, a presentation program regularly used by architects and designers to present their designs to regulatory agencies.

GTC - Sustainable Design Technology-Specific Classes – After learning Revit and Navisworks, our students expand their knowledge base into the realm of Sustainable Design. **Green Building Studio (GBS)** and **Ecotect** are the leading, industry standard software programs for Sustainable Design/Sustainable Technology. In both GBS and Ecotect, you develop and analyze your Revit model and conduct your energy analysis directly from the BIM model. All of our BIM and Sustainable Design Technology classes are linked together, so a student constantly builds on lessons learned in the previous classes.

Mission & Objectives

The mission of Virtual Design and Construction Institute is to offer quality campus based and online certificate programs, to motivated adults who are able to work independently and in small groups and who may benefit from intensive instruction in various CAD, BIM and other Virtual Design software programs.

The Virtual Design and Construction Institute will provide students with an up-to-date curriculum which is both intellectually challenging, practical and appropriate for the professional and trades environments.

Part of our mission is to convey to students the importance of continuing education. We endeavor to sustain our course offerings by developing an operational environment that is professionally managed, competently supervised, continually evaluated and appropriately modified thereby providing course curriculum material that are kept current. Virtual Design and Construction Institute provides onsite and online AutoCAD, Revit, Autodesk Inventor, AutoCAD Civil 3D, Navisworks, 3ds Max, SketchUp and other Construction Industry-targeted software training.

In all programs and services, the Virtual Design and Construction Institute respects the value of diversity among students and faculty. Therefore, we encourage the participation of individuals from all nationalities, races, and colors.

Virtual Design and Construction Institute - Purpose Statement

The special character of this institution is reflected in its commitment to the study of Virtual Design and Construction (VDC) software, including CAD/BIM/Digital Prototyping and Visualization software programs. The purpose of the institution is to help students acquire competency in the use of Computer Aided Design, Building Information Modeling and other Virtual Design and Construction software.

Virtual Design and Construction Institute – Objectives

All programs at Virtual Design and Construction Institute have a set of stated objectives which continue to evolve as the sophistication of the design software evolves. Currently, the institution's objectives are to:

- Provide students with training in the use of architectural, structural, mechanical/electrical/plumbing and civil design software.
- Provide students with a professional atmosphere conducive to learning.

- Assure programs are delivered by highly qualified and experience instructors.
- Assure students obtain the skills and knowledge needed to improve their productivity and enhance their credibility in the workplace.

GBT – Sustainable Design Technology Certificate

Students must complete 152 Hours of Required and Elective Courses

Course Number	Course Name	Number of Hours		
Required Courses				
Students must complete 116 Hours of Required Courses. Does not include prerequisites.				
BIM 101	Introduction to Revit	16		
BIM 201	Intermediate Revit	16		
DAC 201	Introduction to 3ds Max	24		
GTC 102	Introduction to Sustainable Building Design	12		
GTC 103	Intermediate Sustainable Building Design	12		
GTC 201	Advanced Sustainable Building Design	12		
GTC 202	Introduction to Energy Analysis	20		
PFC 501	Certificate Completion Practical	4		
Elective Courses				
Students must complete at least 36 Hours of Elective Courses				
BIM 301	BIM Construction Documents 1	16	Strongly Recommended	+
BIM 302	BIM Construction Documents 2	16	Strongly Recommended	+
BIM 303	BIM Architectural Detailing	16		
BIM 304	BIM Project Management	16		
BIM 321	Revit MEP 1	24	Strongly Recommended	
BIM 322	Revit MEP 2	16		
BIM 341	Revit Structure 1	16		
BIM 342	Revit Structure 2	16		
BIM 361	Navisworks 1	16	Strongly Recommended	
BIM 362	Navisworks 2	16		
BIM 401	Autodesk Certification Test Prep	4	Strongly Recommended	+
BIM 402	BIM Special Studies	24		
BIM 404	Focused Topics	4		

CAD 101	Introduction to AutoCAD	24	
CAD 201	Intermediate AutoCAD	24	
CAD 301	CAD Construction Documents 1	24	
CAD 302	CAD Construction Documents 2	24	
CAD 303	CAD Architectural Detailing	16	
CAD 304	CAD Project Management	16	
CAD 305	Introduction to 3D Modeling	24	
CAD 306	Intermediate 3D Modeling	24	
CAD 401	Autodesk Certification Test Prep	4	
CAD 402	CAD Special Studies	24	
CAD 404	Focused Topics	4	
Civil 3D CAD 301	Introduction to Autodesk Civil 3D	24	
Civil 3D CAD 302	Intermediate Autodesk Civil 3D	24	
Civil 3D CAD 303	Autodesk Civil Construction Documents	24	
Civil 3D CAD 401	Autodesk Certification Test Prep	4	
Civil 3D CAD 402	Civil 3D Special Studies	24	
Civil 3D CAD 404	Focused Topics	4	
DAC 202	Intermediate 3ds Max	24	
DAC 203	Advanced 3ds Max	24	
DAC 211	Introduction to SketchUp	16	
DAC 212	Intermediate SketchUp	16	
DAC 221	Introduction to Photoshop	16	
DAC 222	Introduction to Autodesk Impression	16	
DAC 304	Project Management	16	
DAC 401	Autodesk Certification Test Prep	4	
DAC 402	DAC Special Studies	24	
DAC 404	Focused Topics	4	
GTC 402	Sustainable Design Special Studies	24	Strongly Recommended
GTC 404	Focused Topics	4	Strongly Recommended
PFC 101	Blueprint Reading for the Construction Industry	4	Strongly Recommended

Requirements for Completion

To complete this program a student must attend a minimum of 90% of the scheduled hours of instruction, achieve an average score of 80% or greater on quizzes and exams, and pass an instructor monitored practical exam demonstrating competence in Construction Industry Sustainable Design Technology.

MEP (Mechanical/Electrical/Plumbing) BIM Certificate Program

Program Description – 164 Hours of Instruction

MEP BUILDING INFORMATION MODELING (BIM)
There is an increasing demand for competent engineering/construction/design engineering technicians knowledgeable in the application and integration of MEP (Mechanical/Electrical and Plumbing) -based BIM software. The BIM courses at the Virtual Design and Construction Institute provide students the opportunity to obtain a certificate in these areas. The classes are designed to provide students an opportunity to learn relevant skills and technical knowledge used in a variety of trades, engineering and construction industry-focused disciplines. The curriculum is based on the current professional skill sets required by these businesses. The lessons learned and exercises practiced are based on current, industry MEP BIM-required skills.

CAREER OPTIONS
The following list is a sample of disciplines that employ people with a strong, working knowledge of MEP (Mechanical, Electrical and Plumbing BIM skill sets. Some areas require that their employees have professional training and/or experience in addition to the technical training learned at the Virtual Design and Construction Institute:

BIM Facilitators
Construction Managers
Contractors
Electrical Engineers
Electrical Drafters
Electrical Trades Professionals
Fire Sprinkler Trades Professionals
Mechanical Drafters
Mechanical Engineers
MEP Drafters
MEP Project Managers
MEP Trades Professionals
Plumbing Designers
Plumbing Engineers
Plumbing Trades Professionals

The **MEP BIM Certificate** is designed to provide students with the skills and technical knowledge requested by employers using Computer-Aided Design (CAD) and Building Information Modeling (BIM) software. The certificate program focuses on the development of fundamental drafting and CAD and BIM skills and problem-solving strategies. Please see the Course Descriptions for further information on class content.

Our **MEP BIM Certificate** curriculum is built around how architects, engineers, contractors and trades professionals use CAD (Computer Aided Drafting) and BIM (Building Information Modeling) in their businesses for project documentation.

There are five focus areas of study for this certificate:
(1) Fundamental Classes – Blueprint Reading
(2) CAD-specific classes – using AutoCAD
(3) BIM-specific classes – using Revit and Navisworks
(4) Civil 3D CAD-specific classes – using AutoCAD Civil 3D
(5) DAC-specific classes – using 3dsMax and SketchUp

PFC - Fundamental Classes - Understanding how to read a set of construction documents is of primary importance to anyone working on the construction industry. "Blueprint" is the historic name for construction drawings. Contractors would do their work implementing the design and construction processes detailed in the "blueprints." Our **Blueprint Reading for the Construction Industry** course utilizes lectures, hands-on demonstrations and lab exercises to familiarize participants with the art of blueprint reading. The course will review a set of both residential and commercial construction documents.

CAD-Specific Classes – After our Blueprint Reading classes, we begin our study of CAD, using **AutoCAD**. In the construction industry, knowing how to use AutoCAD is as valuable a skill as knowing how to use MS Office. AutoCAD is THE DEFACTO STANDARD used at all levels and by all disciplines in the construction industry - including facilities people, sound engineers, trades professionals and solar power people, to name a few. Our introductory, intermediate and advanced classes document two residential projects - from the ground up. By the completion of our AutoCAD series of classes, a complete set of construction documents will be built for a moderately complicated project – a project worthy of presentation during a job interview. The completed project includes a full set of construction documents, including details.

BIM-Specific Classes – After learning AutoCAD, our students expand their knowledge base into the realm of Building Information Modeling (BIM). **Revit** is the industry standard software program for BIM. In Revit, you create a 3D model of a project and extract the construction documents directly from the BIM model. All of our Revit classes are linked together, so a student constantly builds on lessons learned in the previous classes. By the completion of our Revit series of classes, a complete set of construction documents will be built for a moderately complicated commercial project. Today, Government, Military, Hospital, Education and other similarly-scaled projects require that their work be completed in Revit (BIM).

It is becoming increasingly common for construction managers to run 3D interference checks on the Revit model using **Navisworks**. For example, Navisworks analyzes where the mechanical, plumbing, structural and other disciplines' design work are occupying the same location in the building. By identifying these interferences during design, significant dollars are saved during construction, and change orders are significantly reduced. Today, most Government, Military, Hospital, Education and other similarly-scaled projects require that their work be analyzed in Navisworks.

Civil 3D CAD - Civil/Infrastructure-Specific Classes – These classes focus on the specific technologies appropriate to current and projected skill set requirements for the development and refurbishing of our infrastructure system and also towards site development. Students are exposed to public 3D/virtual databases and learn about 3D data management and project file sharing through web-based technologies such as project FTP, MILCON, and city/state/national databases. Coursework integrates with CALTRANS and other public agency requirements and databases.

DAC - Digital Arts (Visualization)-Specific Classes – Most clients want both technical documentation on their projects and renderings and animations. SketchUp is a software program which is regularly used in the construction industry to create preliminary 3D designs for construction projects. 3ds Max is an incredible animation and rendering program which is used for construction renderings, animations, fly-throughs, product visualizations and even in the gaming and multi-media

industries. We have carefully developed our training in SketchUp and 3dsMax courses to most effectively assist our students target their skills appropriately. We have also included Autodesk Impression, a presentation program regularly used by architects and designers to present their designs to regulatory agencies.

Mission & Objectives

The mission of Virtual Design and Construction Institute is to offer quality campus based and online certificate programs, to motivated adults who are able to work independently and in small groups and who may benefit from intensive instruction in various CAD, BIM and other Virtual Design software programs.

The Virtual Design and Construction Institute will provide students with an up-to-date curriculum which is both intellectually challenging, practical and appropriate for the professional and trades environments.

Part of our mission is to convey to students the importance of continuing education. We endeavor to sustain our course offerings by developing an operational environment that is professionally managed, competently supervised, continually evaluated and appropriately modified thereby providing course curriculum material that are kept current. Virtual Design and Construction Institute provides onsite and online AutoCAD, Revit, Autodesk Inventor, AutoCAD Civil 3D, Navisworks, 3ds Max, SketchUp and other Construction Industry-targeted software training.

In all programs and services, the Virtual Design and Construction Institute respects the value of diversity among students and faculty. Therefore, we encourage the participation of individuals from all nationalities, races, and colors.

Virtual Design and Construction Institute - Purpose Statement

The special character of this institution is reflected in its commitment to the study of Virtual Design and Construction (VDC) software, including CAD/BIM/Digital Prototyping and Visualization software programs. The purpose of the institution is to help students acquire competency in the use of Computer Aided Design, Building Information Modeling and other Virtual Design and Construction software.

Virtual Design and Construction Institute – Objectives

All programs at Virtual Design and Construction Institute have a set of stated objectives which continue to evolve as the sophistication of the design software evolves. Currently, the institution's objectives are to:

- Provide students with training in the use of architectural, structural, mechanical/electrical/plumbing and civil design software.
- Provide students with a professional atmosphere conducive to learning.
- Assure programs are delivered by highly qualified and experience instructors.
- Assure students obtain the skills and knowledge needed to improve their productivity and enhance their credibility in the workplace.

MEP BIM Professional Certificate

Students must complete 160 Hours of Required and Elective Courses

Course Number	Course Name	Number of Hours		

Required Courses

Students must complete 140 Hours of Required Courses. Does not include prerequisites.

BIM 101	Introduction to Revit	16		
BIM 201	Intermediate Revit	16		
BIM 301	BIM Construction Documents 1	16		
BIM 302	BIM Construction Documents 2	16		
BIM 304	BIM Project Management	16		
BIM 321	Revit MEP 1	24		
BIM 322	Revit MEP 2	16		
BIM 361	Navisworks 1	16		
PFC 501	Certificate Completion Practical	4		

Elective Courses

Students must complete at least 20 Hours of Elective Courses

BIM 303	BIM Architectural Detailing	16	Strongly Recommended	+
BIM 341	Revit Structure 1	16		
BIM 342	Revit Structure 2	16		
BIM 362	Navisworks 2	16		
BIM 401	Autodesk Certification Test Prep	4	Strongly Recommended	+
BIM 402	BIM Special Studies	24		
BIM 404	Focused Topics	4		
CAD 101	Introduction to AutoCAD	24		
CAD 201	Intermediate AutoCAD	24		
CAD 301	CAD Construction Documents 1	24		
CAD 302	CAD Construction Documents 2	24		
CAD 303	CAD Architectural Detailing	16		
CAD 304	CAD Project Management	16		
CAD 305	Introduction to 3D Modeling	24		
CAD 306	Intermediate 3D Modeling	24		
CAD 401	Autodesk Certification Test Prep	4		
CAD 402	CAD Special Studies	24		
CAD 404	Focused Topics	4		

Civil 3D CAD 301	Introduction to Autodesk Civil 3D	24	
Civil 3D CAD 302	Intermediate Autodesk Civil 3D	24	
Civil 3D CAD 303	Autodesk Civil Construction Documents	24	
Civil 3D CAD 401	Autodesk Certification Test Prep	4	
Civil 3D CAD 402	Civil 3D Special Studies	24	
Civil 3D CAD 404	Focused Topics	4	
DAC 201	Introduction to 3ds Max	24	
DAC 202	Intermediate 3ds Max	24	
DAC 203	Advanced 3ds Max	24	
DAC 211	Introduction to SketchUp	16	
DAC 212	Intermediate SketchUp	16	
DAC 221	Introduction to Photoshop	16	
DAC 222	Introduction to Autodesk Impression	16	
DAC 304	Project Management	16	
DAC 401	Autodesk Certification Test Prep	4	
DAC 402	DAC Special Studies	24	
DAC 404	Focused Topics	4	
GTC 102	Introduction to Sustainable Building Design	12	Strongly Recommended
GTC 103	Intermediate Sustainable Building Design	12	Strongly Recommended
GTC 201	Advanced Sustainable Building Design	12	
GTC 202	Introduction to Energy Analysis	20	
GTC 402	Sustainable Design Special Studies	24	
GTC 404	Focused Topics	4	
PFC 101	Blueprint Reading for the Construction Industry	4	Strongly Recommended

Requirements for Completion

To complete this program a student must attend a minimum of 90% of the scheduled hours of instruction, achieve an average score of 80% or greater on quizzes and exams, and pass an instructor monitored practical exam demonstrating competence in Construction Industry MEP BIM.

Structural BIM Certificate Program

Program Description – 164 Hours of Instruction

STRUCTURAL BUILDING INFORMATION MODELING (BIM)
As the technology is stabilizing and as it is successfully integrating itself with the seismic and lateral engineering analysis programs, there is (and will continue to be) a growing demand for competent architectural/engineering/construction/design engineering technicians knowledgeable in the application and integration of Structural (Engineering)-based BIM software. The Structural BIM courses at the Virtual Design and Construction Institute provide students the opportunity to obtain a certificate in these areas. The classes are designed to provide students an opportunity to learn relevant skills and technical knowledge used in a variety of trades, engineering and construction industry-focused disciplines. The curriculum is based on the current professional skill sets required by these businesses. The lessons learned and exercises practiced are based on current, industry STRUCTURAL BIM-required skills.

CAREER OPTIONS
The following list is a sample of disciplines that employ people with a strong, working knowledge of Structural (Engineering) BIM skill sets. Some areas require that their employees have professional training and/or experience in addition to the technical training learned at the Virtual Design and Construction Institute:

Architects	Engineering Managers	Steel Fabricators
Architectural Drafters	Electrical Engineers	Structural Designers
Architectural Project Managers	Electrical Drafters	Structural Engineers
BIM Facilitators	Sustainable Design/LEED Pjt. Managers	Structural Project Managers
Construction Managers	MEP Project Managers	Urban Planners

The **Structural BIM Certificate** is designed to provide students with the skills and technical knowledge requested by employers using Computer-Aided Design (CAD) and Building Information Modeling (BIM) software. The certificate program focuses on the development of fundamental drafting and CAD and BIM skills and problem-solving strategies. Please see the Course Descriptions for further information on class content.

Our **Structural BIM Certificate** curriculum is built around how architects, engineers, contractors and trades professionals use CAD (Computer Aided Drafting) and BIM (Building Information Modeling) in their businesses for project documentation.

There are five focus areas of study for this certificate:
(1) Fundamental Classes – Blueprint Reading
(2) CAD-specific classes – using AutoCAD
(3) BIM-specific classes – using Revit and Navisworks
(4) Digital Arts (Visualization)-specific classes – using 3dsMax and SketchUp
(5) Sustainable Design Technology-specific classes – using GBS and Ecotect

PFC - Fundamental Classes - Understanding how to read a set of construction documents is of primary importance to anyone working on the construction industry. "Blueprint" is the historic name for construction drawings. Contractors would do their work implementing the design and construction processes detailed in the "blueprints." Our **Blueprint Reading for the Construction Industry** course utilizes lectures, hands-on demonstrations and lab exercises to familiarize participants with the art of blueprint reading. The course will review a set of both residential and commercial construction documents.

CAD-Specific Classes – After our Blueprint Reading classes, we begin our study of CAD, using **AutoCAD**. In the construction industry, knowing how to use AutoCAD is as valuable a skill as knowing how to use MS Office. AutoCAD is THE DEFACTO STANDARD used at all levels and by all disciplines in the construction industry - including facilities people, sound engineers, trades professionals and solar power people, to name a few. Our introductory, intermediate and advanced classes document two residential projects - from the ground up. By the completion of our AutoCAD series of classes, a complete set of construction documents will be built for a moderately complicated project – a project worthy of presentation during a job interview. The completed project includes a full set of construction documents, including details.

BIM-Specific Classes – After learning AutoCAD, our students expand their knowledge base into the realm of Building Information Modeling (BIM). **Revit** is the industry standard software program for BIM. In Revit, you create a 3D model of a project and extract the construction documents directly from the BIM model. All of our Revit classes are linked together, so a student constantly builds on lessons learned in the previous classes. By the completion of our Revit series of classes, a complete set of construction documents will be built for a moderately complicated commercial project. Today, Government, Military, Hospital, Education and other similarly-scaled projects require that their work be completed in Revit (BIM).

It is becoming increasingly common for construction managers to run 3D interference checks on the Revit model using **Navisworks**. For example, Navisworks analyzes where the mechanical, plumbing, structural and other disciplines' design work are occupying the same location in the building. By identifying these interferences during design, significant dollars are saved during construction, and change orders are significantly reduced. Today, most Government, Military, Hospital, Education and other similarly-scaled projects require that their work be analyzed in Navisworks.

DAC - Digital Arts (Visualization)-Specific Classes – Most clients want both technical documentation on their projects and renderings and animations. SketchUp is a software program which is regularly used in the construction industry to create preliminary 3D designs for construction projects. 3ds Max is an incredible animation and rendering program which is used for construction renderings, animations, fly-throughs, product visualizations and even in the gaming and multi-media industries. We have carefully developed our training in SketchUp and 3dsMax courses to most effectively assist our students target their skills appropriately. We have also included Autodesk Impression, a presentation program regularly used by architects and designers to present their designs to regulatory agencies.

GTC - Sustainable Design Technology-Specific Classes – After learning Revit and Navisworks, our students expand their knowledge base into the realm of Sustainable Design. **Green Building**

Studio (GBS) and **Ecotect** are the leading, industry standard software programs for Sustainable Design/Sustainable Technology. In both GBS and Ecotect, you develop and analyze your Revit model and conduct your energy analysis directly from the BIM model. All of our BIM and Sustainable Design Technology classes are linked together, so a student constantly builds on lessons learned in the previous classes.

Mission & Objectives

The mission of Virtual Design and Construction Institute is to offer quality campus based and online certificate programs, to motivated adults who are able to work independently and in small groups and who may benefit from intensive instruction in various CAD, BIM and other Virtual Design software programs.

The Virtual Design and Construction Institute will provide students with an up-to-date curriculum which is both intellectually challenging, practical and appropriate for the professional and trades environments.

Part of our mission is to convey to students the importance of continuing education. We endeavor to sustain our course offerings by developing an operational environment that is professionally managed, competently supervised, continually evaluated and appropriately modified thereby providing course curriculum material that are kept current. Virtual Design and Construction Institute provides onsite and online AutoCAD, Revit, Autodesk Inventor, AutoCAD Civil 3D, Navisworks, 3ds Max, SketchUp and other Construction Industry-targeted software training.

In all programs and services, the Virtual Design and Construction Institute respects the value of diversity among students and faculty. Therefore, we encourage the participation of individuals from all nationalities, races, and colors.

Virtual Design and Construction Institute - Purpose Statement

The special character of this institution is reflected in its commitment to the study of Virtual Design and Construction (VDC) software, including CAD/BIM/Digital Prototyping and Visualization software programs. The purpose of the institution is to help students acquire competency in the use of Computer Aided Design, Building Information Modeling and other Virtual Design and Construction software.

Virtual Design and Construction Institute – Objectives

All programs at Virtual Design and Construction Institute have a set of stated objectives which continue to evolve as the sophistication of the design software evolves. Currently, the institution's objectives are to:

- Provide students with training in the use of architectural, structural, mechanical/electrical/plumbing and civil design software.
- Provide students with a professional atmosphere conducive to learning.
- Assure programs are delivered by highly qualified and experience instructors.
- Assure students obtain the skills and knowledge needed to improve their productivity and enhance their credibility in the workplace.

Structural BIM Certificate

Students must complete 160 Hours of Required and Elective Courses

Course Number	Course Name	Number of Hours		
Required Courses				
Students must complete 116 Hours of Required BIM Courses. Does not include prerequisites.				
BIM 101	Introduction to Revit	16		
BIM 201	Intermediate Revit	16		
BIM 301	BIM Construction Documents 1	16		
BIM 302	BIM Construction Documents 2	16		
BIM 341	Revit Structure 1	16		
BIM 342	Revit Structure 2	16		
BIM 361	Navisworks 1	16		
PFC 501	Certificate Completion Practical	4		
Elective Courses				
Students must complete at least 44 Hours of Elective Courses				
BIM 303	BIM Architectural Detailing	16	Strongly Recommended	
BIM 304	BIM Project Management	16	Strongly Recommended	+
BIM 321	Revit MEP 1	24	Strongly Recommended	+
BIM 322	Revit MEP 2	16		
BIM 362	Navisworks 2	16		
BIM 401	Autodesk Certification Test Prep	4	Strongly Recommended	+
BIM 402	BIM Special Studies	24		
BIM 404	Focused Topics	4		
CAD 101	Introduction to AutoCAD	24		
CAD 201	Intermediate AutoCAD	24		
CAD 301	CAD Construction Documents 1	24		
CAD 302	CAD Construction Documents 2	24		
CAD 303	CAD Architectural Detailing	16		
CAD 304	CAD Project Management	16		
CAD 305	Introduction to 3D Modeling	24		
CAD 306	Intermediate 3D Modeling	24		
CAD 401	Autodesk Certification Test Prep	4		
CAD 402	CAD Special Studies	24		
CAD 404	Focused Topics	4		

Civil 3D CAD 301	Introduction to Autodesk Civil 3D	24	
Civil 3D CAD 302	Intermediate Autodesk Civil 3D	24	
Civil 3D CAD 303	Autodesk Civil Construction Documents	24	
Civil 3D CAD 401	Autodesk Certification Test Prep	4	
Civil 3D CAD 402	Civil 3D Special Studies	24	
Civil 3D CAD 404	Focused Topics	4	
DAC 201	Introduction to 3ds Max	24	Strongly Recommended
DAC 202	Intermediate 3ds Max	24	
DAC 203	Advanced 3ds Max	24	
DAC 211	Introduction to SketchUp	16	Strongly Recommended
DAC 212	Intermediate SketchUp	16	
DAC 221	Introduction to Photoshop	16	
DAC 222	Introduction to Autodesk Impression	16	
DAC 304	Project Management	16	
DAC 401	Autodesk Certification Test Prep	4	
DAC 402	DAC Special Studies	24	
DAC 404	Focused Topics	4	
GTC 102	Introduction to Sustainable Building Design	12	Strongly Recommended
GTC 103	Intermediate Sustainable Building Design	12	
GTC 201	Advanced Sustainable Building Design	12	
GTC 202	Introduction to Energy Analysis	20	
GTC 402	Sustainable Design Special Studies	24	
GTC 404	Focused Topics	4	
PFC 101	Blueprint Reading for the Construction Industry	4	Strongly Recommended

Requirements for Completion

To complete this program a student must attend a minimum of 90% of the scheduled hours of instruction, achieve an average score of 80% or greater on quizzes and exams, and pass an instructor monitored practical exam demonstrating competence in Construction Industry Structural BIM.

Certificate Completion Requirements

Individual Certificates

Students must complete the required and elective course hours for each certificate as detailed in the Program Descriptions. All certificates require the completion of a “Certificate Completion Practical.”

Multiple Certificates

To receive multiple certificates, students must satisfy all of the required and elective courses for each certificate, including a separate “Certificate Completion Practical” for each additional certificate. Students must also complete three additional courses for every additional certificate they wish to receive..

Course Descriptions

Codes

WE = Work Experience

Computer-Aided Design (CAD) Courses

Course Name	Course Description
CAD 101 **Introduction to AutoCAD** 24 credits Prerequisite: BPR 101 (WE) Corequisite: None 24 on-site hours or equivalent	An introductory level course for professional designers, architects, engineers and others seeking job transition and professional advancement through acquiring computer design skills. By the conclusion of this class, participants will be able to apply AutoCAD for 2D design projects and will be qualified to enroll in the working drawings and three-dimensional (3D) AutoCAD classes.
CAD 201 **Intermediate AutoCAD** 24 credits Prerequisites: CAD 101 (WE) Corequisite: None 24 on-site hours or equivalent	The course covers commands relevant to two-dimensional drafting techniques and especially the skills involved in developing a small set of architectural working drawings using paper/model space, user coordinate systems and layer management tools . At the conclusion of the course, students will be able to enroll in the Working Drawings, CAD 3D Modeling and AutoCAD Project Management and Revit courses.
CAD 301 **CAD Construction Documents 1** 24 credits Prerequisites: CAD 201 (WE) Corequisite: None 24 on-site hours or equivalent	The technical aspects of AutoCAD will be addressed including file referencing, paper/model space and the relational aspects of building sections, wall sections, multi-scale drawings and architectural details. Students will begin to develop a set of working drawing set for a residential project using Office Drafting Standards.
CAD 302 **CAD Construction Documents 2** 24 credits Prerequisites: CAD 301 (WE) Corequisite: None 24 on-site hours or equivalent	Additional technical aspects of AutoCAD will be addressed including file referencing, paper/model space, database objects and the relational aspects of building sections, wall sections, multi-scale drawings and architectural details. Students will complete the development of a set of working drawing set for a residential project using Office Drafting Standards.

CAD 303 **CAD Architectural Detailing** 16 credits Prerequisites: CAD 302 (WE) Corequisite: None 16 on-site hours or equivalent	Develop a clear understanding of the importance of graphic clarity between multi-scale detail drawings which are presented in a single construction document sheet. This class focuses on strengthening these skills and gives the class participants excellent practice in achieving these skills.
CAD 304 **Project Management** 16 credits Prerequisites: CAD 302 (WE) Corequisite: None 16 on-site hours or equivalent	Project Management and Document Coordination. This class ensures that students have the relevant exposure to organizing and managing a CAD-generated set of construction documents. This class is relevant for all disciplines in the construction industry.
CAD 305 **Introduction to 3D Modeling** 24 credits Prerequisites: CAD 101 (WE) Corequisite: None 24 on-site hours or equivalent	This course introduces 3D modeling concepts and will utilize lectures, hands-on demonstrations and lab exercises to familiarize class participants with AutoCAD commands relevant for 3D modeling. The course is targeted for 3D modeling of buildings and building systems which can be used for conflict resolution in Building Information Modeling (BIM). The 3D drawings will allow the class participant to show multiple perspective views of their computer model in one plotted drawing, and steps necessary to take the 3D model into Navisworks and Revit.
CAD 306 **Intermediate 3D Modeling** 24 credits Prerequisites: CAD 305 (WE) Corequisite: None 24 on-site hours or equivalent	An advanced 3D modeling course which continues 3D modeling for BIM and expands to prepare the student for 3D modeling with 3dsMax, SketchUp and other rendering and animation software programs.
CAD 401 **Autodesk Certification Test Prep** 4 credits Prerequisites: CAD 301 (WE) Corequisite: None 4 on-site hours or equivalent	This hands-on and seminar class provides valuable information pertinent to the student passing the Autodesk Certification Test for AutoCAD. Course may be repeated.

CAD 402 **CAD Special Studies** 24 credits Prerequisites: CAD 304 (WE) Corequisite: None 24 on-site hours or equivalent	Targeted topics based on current software demand requirements in the Construction Industry. Course may be repeated. This same course number may be applied to special studies in either 2D (Construction Documents) or 3D modeling.
CAD 404 **Focused Topics** 4 credits Prerequisites: CAD 304 (WE) Corequisite: None 4 on-site hours or equivalent	Customized, seminar, focused-topic classes pertinent at the mid- to high-level of expertise. Based on current software and industry-specific demand requirements in the Construction Industry. May be repeated.

Civil 3D Computer-Aided Design (Civ3D) Courses

Civil 3D CAD 301 **Introduction to Autodesk Civil 3D** 24 credits Prerequisites: CAD 201 (WE) Corequisite: None 24 on-site hours or equivalent	Students learn how to work with point data in AutoCAD Civil 3D; create and analyze a surface; develop a site; model roads, corridors, and pipe networks; work with survey data; and import and export data. Hands-on exercises throughout the courseware are provided in both a printed format as well as an onscreen format.
Civil 3D CAD 302 **Intermediate Autodesk Civil 3D** 24 credits Prerequisites: Civil 3D 301 (WE) Corequisite: None 24 on-site hours or equivalent	In this hands-on in-depth course the student works through an actual site. Topics covered include: Project Setup and Management, Horizontal Site Design, Vertical Roadway Design, Complex Corridor Modeling, Complex Site Grading and Calculating Earthworks.
Civil 3D CAD 303 **Autodesk Civil 3D Construction Documents** 24 credits Prerequisites: Civil 3D 302 (WE) Corequisite: None 24 on-site hours or equivalent	This class explores develops a set of construction documents using AutoCAD Civil 3D. The course is applicable directly to the typical set of construction documents regularly prepared in the Civil Engineering office. The project includes site design, site layout, site sections, schedule and details.
Civil 3D CAD 401 **Autodesk Certification Test Prep** 4 credits Prerequisites: Civil 3D 302 (WE) Corequisite: None 4 on-site hours or equivalent	This hands-on and seminar class provides valuable information pertinent to the student passing the Autodesk Certification Test for AutoCAD Civil 3D. Course may be repeated.
Civil 3D CAD 402 **Special Studies** 24 credits Prerequisites: Civil 3D 301 (WE) Corequisite: None 24 on-site hours or equivalent	Special Studies. Targeted topics based on current software demand requirements in the Construction Industry. Course may be repeated.

Civil 3D CAD 404 **Civil 3D Focused Topics** 4 credits Prerequisites: Civil 3D CAD 304 (WE) Corequisite: None 4 on-site hours or equivalent	Customized, seminar, focused-topic classes pertinent at the mid- to high-level of expertise. Based on current software and industry-specific demand requirements in the Construction Industry. May be repeated.

Building Information Modeling (BIM) Courses

BIM 101 **Introduction to Revit** 16 credits Prerequisites: CAD 101 (WE) Corequisite: None 16 on-site hours or equivalent	This introductory course examines how Revit users design 3D models that simultaneously document the project in schedules and 2D architectural drawings. Topics include beginning a project, modifying elements, and presenting the model. By the conclusion of the course, students will gain valuable knowledge building a Revit Architecture (BIM) project from scratch and presenting multiple views of the model on an architectural sheet.
BIM 201 **Intermediate Revit** 16 credits Prerequisites: BIM 101 (WE) Corequisite: None 16 on-site hours or equivalent	In this intermediate course, students explore the more advanced methods of documenting a building project in Revit Architecture. Topics include scheduling building components, using the family editor to create 2D and 3D components, refining graphics, and construction documentation. By the conclusion of this course, students will be able to develop a BIM model independently and understand how to organize it as an integrated, interoperable construction document set.
BIM 301 **BIM Construction Documents 1** 24 credits Prerequisites: BIM 201 (WE) Corequisite: None 24 on-site hours or equivalent	In this course, students explore the more advanced methods of documenting a building project in Revit Architecture. Topics include creating a titleblock, cartooning a set of construction documents, creating a site, modeling an existing commercial building, creating demolition plans and creating the model for a significant two-story expansion to the existing building model. By the conclusion of this course, students will be able to develop a BIM model independently and understand how to organize it for subsequent development into a set of integrated, interoperable construction documents.
BIM 302 **BIM Construction Documents 2** 24 credits Prerequisites: BIM 301 (WE) Corequisite: None 24 on-site hours or equivalent	In this course, students explore the more advanced methods of documenting a building project in Revit Architecture. For the course project, Creating a full set of architectural construction documents for a commercial building, which includes an existing structure, an area of demolition plus a significant two-story expansion. This is the same project which was modeled in BIM 301 (Revit 3). At the completion of the course, the students will each have created a full set of architectural construction documents.
BIM 303 **BIM Architectural Detailing** 16 credits Prerequisites: BIM 302 (WE) Corequisite: None 16 on-site hours or equivalent	Architectural Detailing. It is important for professionals to have a clear understanding of the importance of graphic clarity between multi-scale detail drawings which are presented in a single construction document sheet. This class focuses on strengthening these skills and gives the class participants excellent practice in achieving these skills. Course may be repeated.

BIM 304 **BIM Project Management** 16 credits Prerequisites: BIM 302 (WE) Corequisite: None 8 on-site hours or equivalent	Project Management and Document Coordination. This class ensures that students have the relevant exposure to organizing and managing a Revit (BIM)-generated set of construction documents. This class is relevant for all disciplines in the construction industry. Course may be repeated.
BIM 321 **Revit MEP 1** 24 credits Prerequisites: BIM 201 (WE) Corequisite: None 24 on-site hours or equivalent	This course is designed for engineers, architects, designers, drafters, project managers and others involved in the construction industry looking to explore the more advanced methods of documenting a building's Mechanical, Electrical and Plumbing (MEP) systems using Revit MEP. The class is designed to teach how Revit MEP is used to integrate MEP systems into the building envelope and also how the successful implementation of Revit MEP will facilitate collision detection within Navisworks.
BIM 322 **Revit MEP 2** 16 credits Prerequisites: BIM 321 (WE) Corequisite: None 24 on-site hours or equivalent	This class enhances the lessons learned in Revit MEP 1 – where the class focuses professional applications using Revit MEP software for either (specifically) Mechanical, Electrical or Plumbing applications. In this class, a number of Revit models are provided with the architectural and structural models already in-progress.
BIM 341 **Revit Structure 1** 16 credits Prerequisites: BIM 201 (WE) Corequisite: None 24 on-site hours or equivalent	The class participant will use Revit Structure to design and develop the appropriate BIM 3D models and develop the Structural Engineering-based construction documents. In this class, architectural Revit models are provided for the class to develop the structural model and CDs, as would occur in practice.
BIM 342 **Revit Structure 2** 16 credits Prerequisites: BIM 341 (WE) Corequisite: None 24 on-site hours or equivalent	The class continues where Revit Structure 1 left off, expanding on lessons learned to develop the appropriate BIM 3D models and develop the Structural Engineering-based construction documents. In this class, architectural Revit models are provided for the class to develop the structural model and CDs, as would occur in practice.

BIM 361 **Navisworks 1** 16 credits Prerequisites: BIM 341 (WE) Corequisite: None 20 on-site hours or equivalent	Navisworks 1 is an introductory level course for professional designers, architects, engineers, contractors and others seeking professional advancement and job transition through acquiring 3D and 4D modeling review skills. By the conclusion of this class, participants will be able to use Navisworks tools to: effectively run object-interference checks on 3D models from multiple disciplines, create 4D simulations, interactive animations and photorealistic renderings.
BIM 362 **Navisworks 2** 16 credits Prerequisites: BIM 361 (WE) Corequisite: None 20 on-site hours or equivalent	Navisworks 2, "Best Practices," is a follow-on course for professional designers, architects, engineers, contractors and others seeking professional advancement and job transition through acquiring 3D and 4D modeling review skills. By the conclusion of this class, participants will be able to use Navisworks tools to: create database links, scripts, improved 4D scheduling and improved renderings and 4D construction animations.
BIM 401 **Autodesk Certification Test Prep** 4 credits Prerequisites: BIM 301 (WE) Corequisite: None 4 on-site hours or equivalent	This hands-on and seminar class provides valuable information pertinent to the student passing the Autodesk Certification Test for Revit Architecture. Course may be repeated.
BIM 402 **BIM Special Studies** 24 credits Prerequisites: BIM 302 (WE) Corequisite: None 24 on-site hours or equivalent	Special Studies. Targeted topics based on current software demand requirements in the Construction Industry using Revit, Revit MEP, Revit Structure and/or Navisworks. 24 onsite hours or equivalent. Course may be repeated.
BIM 404 **Focused Topics** 4 credits Prerequisites: BIM 304 (WE) Corequisite: None 4 on-site hours or equivalent	Customized, seminar, focused-topic classes pertinent at the mid- to high-level of expertise. Based on current software and industry-specific demand requirements in the Construction Industry. May be repeated.

Digital Arts / Visualization Courses (DAC)

DAC 201 **Introduction to 3ds Max** 24 credits Prerequisites: CAD 101or BIM 101 (WE) Corequisite: None 16 on-site hours or equivalent	This is a hands-on introduction to 3DS Max, on the Windows platform. This course will walk through the steps required to build a real world residential project. The skills and talents you develop can be directly applied towards creating environments and props for gaming and other virtual reality projects. As we progress we will learn to make planning decisions about efficient modeling, finally progressing to a 3D model that can be subsequently rendered into photorealistic images.
DAC 202 **Intermediate 3ds Max** 24 credits Prerequisites: DAC 201(WE) Corequisite: None 16 on-site hours or equivalent	3dsMax – Rendering will focus on rendering 3D models and will also develop the modeling skills learned in DAC 201. The student will learn material mapping and lighting to generate realistic renderings. In addition we will explore creating custom building materials, develop global illumination, radiosity and other lighting techniques
DAC 203 **Advanced 3ds Max** 24 credits Prerequisites: DAC 202 (WE) Corequisite: None 16 on-site hours or equivalent	3dsMax – Animation will focus on animating 3D models. In the process, students will apply the modeling and rendering skills learned earlier in the course sequence to create realistic walk-throughs and fly-bys of 3D models which can be used to present architectural, interior design and urban planning models. The technical aspects of animation will be addressed including key framing and inverse kinematics.
DAC 211 **Introduction to SketchUp** 16 credits Prerequisites: CAD 101or BIM 101 (WE) Corequisite: None 16 on-site hours or equivalent	This is a hands-on introduction to Google SketchUp, on the Windows platform. This course will walk through the basics of the software and develop preliminary design models and massing. Through the course we will learn about strategies and techniques to develop speed and efficiency in modeling and presentations.
DAC 212 **Intermediate SketchUp** 16 credits Prerequisites: DAC 221 (WE) Corequisite: None 16 on-site hours or equivalent	The classes are structured to cover strategies and techniques to aid the schematic design and design development phases. We will build several models of detailed portions of buildings throughout the course.

DAC 221 **Introduction to Photoshop** 16 credits Prerequisites: DAC 202 (WE) Corequisite: None 16 on-site hours or equivalent	This course focuses on creating the visualization skills needed to create presentation boards, portfolios and other presentation media regularly used within the architectural/engineering/construction industry to present renderings, images, etc to regulatory boards, government institutions and owners. Students are provided existing renderings and other images and they learn to successfully incorporate these images into the required presentation media.
DAC 222 **Introduction to Autodesk Impression** 16 credits Prerequisites: DAC 302 (WE) Corequisite: None 16 on-site hours or equivalent	This course focuses on creating presentation-ready images regularly used in the construction industry for submission to regulatory agencies for plan reviews, integrating AutoCAD drawing files.
DAC 304 **Project Management** 16 credits Prerequisites: DAC 302 (WE) Corequisite: None 16 on-site hours or equivalent	Project Management and Document Coordination. This class ensures that students have the relevant exposure to organizing and managing a visualization / rendering/animation project, including the management of render farms. This class is relevant for all disciplines in the construction industry.
DAC 401 **Autodesk Certification Test Prep** 4 credits Prerequisites: DAC 302 (WE) Corequisite: None 4 on-site hours or equivalent	This hands-on and seminar class provides valuable information pertinent to the student passing the Autodesk Certification Test for 3ds Max Design. Course may be repeated.
DAC 402 **DAC Special Studies** 24 credits Prerequisites: DAC 302 (WE) Corequisite: None 24 on-site hours or equivalent	Special Studies. Targeted topics based on current software demand requirements in the Digital Arts using 3ds Max, SketchUp, Softimage, MotionBuilder, Mudbox and other Autodesk software for 3D modeling, animation, rendering and compositing. 24 onsite hours or equivalent. Course may be repeated.

DAC 404 **Focused Topics** 4 credits Prerequisites: DAC 304 (WE) Corequisite: None 4 on-site hours or equivalent	Customized, seminar, focused-topic classes pertinent at the mid- to high-level of expertise. Based on current software and industry-specific demand requirements in the Construction Industry. May be repeated.

Professional Fundamental Courses (PFC)

PFC 101 **Introduction to Blueprint Reading** 4 credits Prerequisites: None Corequisite: None 4 on-site hours or equivalent	This is a hands-on introduction to Blueprint reading. Understanding how to read a set of construction documents is of primary importance to anyone working on the construction industry. "Blueprint" is the historic name for construction drawings. Contractors would do their work implementing the design and construction processes detailed in the "blueprints." The course will utilize lectures, hands-on demonstrations and lab exercises to familiarize participants with the art of blueprint reading. The course will review a set of both residential and commercial construction documents. At the conclusion of the course, students will be able to make the connections and references between multiple documents contained in a set of blueprint drawings and will be qualified to enroll in the AutoCAD and Revit courses.
PFC 102 **BIM Blueprint Reading** 4 credits Prerequisites: None Corequisite: None 4 on-site hours or equivalent	This is a hands-on introduction to reading construction documents online and manipulating through Navisworks models using the software programs Autodesk Design Review and Navisworks Freedom Viewer. This course is primarily designed to reflect how construction and project managers are reviewing their projects online at the job site.
PFC 301 **Resume Preparation** 4 credits Prerequisites: None Corequisite: None 4 on-site hours or equivalent	This is a hands-on class in resume preparation. In advance of the class, students are asked to prepare a resume. 1:1 time is spent with an industry professional who regularly reads and prioritizes resumes.
PFC 302 **Interviewing Skills** 4 credits Prerequisites: None Corequisite: None 4 on-site hours or equivalent	This is a hands-on “professional interview class.” Participants are asked to present themselves as if they were in a formal interview. The interviews are video recorded and critiqued. Presentation styles, dress, demeanor, etc. are addressed.
PFC 303 **Professional Self-Marketing** 4 credits Prerequisites: None Corequisite: None 4 on-site hours or equivalent	This is a hands-on “professional marketing class.” Participants are presented with various options for marketing themselves in order to obtain a new job. Success and failure strategies and examples are presented.

PFC 401 **Certification Test Prep** 4 credits Prerequisites: IDC 201 (WE) Corequisite: None 4 on-site hours or equivalent	This hands-on and seminar class provides valuable information pertinent to the student passing the appropriate nationally-recognized Certification Test appropriate for project management. Course may be repeated.
PFC 402 **PFC Special Studies** 24 credits Prerequisites: PFC 202 (WE) Corequisite: None 24 on-site hours or equivalent	Special Studies. Targeted topics based on current software demand requirements in the project management profession utilizing Autodesk software products for the construction industry. 24 onsite hours or equivalent. Course may be repeated.
PFC 404 **Focused Topics** 4 credits Prerequisites: PFC 304 (WE) Corequisite: None 4 on-site hours or equivalent	Customized, seminar, focused-topic classes pertinent at the mid- to high-level of expertise. Based on current software and industry-specific demand requirements in the Construction Industry. May be repeated.
PFC 501 **Certificate Completion Practical** 4 credits Prerequisites: None Corequisite: None 4 on-site hours or equivalent	This is four-hour, hands-on “final project” / ”final test” presentation to the instructor to ensure that the student has successfully achieved all of the requirements for their Technology Certificate from the Virtual Design and Construction Institute. This course requires the preparation of a final project, which would take approximately 40 hours to complete. Includes time with the instructor to review, guide, provide direction, grade and evaluate.

Sustainable Design Technology Courses (GTC)

GTC 102 **Introduction to Sustainable Building Design** 12 credits Prerequisites: None Corequisite: None 12 on-site hours or equivalent	This project-based course explores computer modeling, using Ecotect to optimize sustainable design (energy efficiency) relevant to architecture, engineering and mechanical systems efficiency. This course will prepare students for the integrated practice of sustainable design and multi-disciplinary collaboration using Autodesk Ecotect Analysis.
GTC 103 **Intermediate Sustainable Building Design** 12 credits Prerequisites: GTC 102 Corequisite: None 12 on-site hours or equivalent	This project-based course explores computer modeling, using Green Building Studio, providing students the skills to learn how Sustainable Design and BIM technologies work together to optimize energy efficiency during the building design process. Students will learn to integrate the building design practice of computer modeling sustiable design incorporating energy efficiency using Autodesk Green Building Studio.
GTC 201 **Advanced Sustainable Building Design** 12 credits Prerequisites: None Corequisite: None 12 on-site hours or equivalent	This project-based course integrates sustainable design technologies including CAD, BIM, Energy Analysis and Visualization Programs using Revit, 3dsMax, Ecotect and Green Building Studio. Students will learn to integrate, analyze and present effective sustainable design solutions to optimize energy efficiency in building design using BIM, Sustainable Design Technologies and computer-based Visualization programs.
GTC 202 **Introduction to Energy Analysis** 20 credits Prerequisites: GTC 201 (WE) Corequisite: None 20 on-site hours or equivalent	This lab/project-based class teaches approaches to energy management from conceptual designphase through the design process. Integrates the use of Revit and Conceptual Engineering Analysis (CEA) software programs.
GTC 203 **Advanced Energy Analysis** 16 credits Prerequisites: GTC 202 Corequisite: None 16 on-site hours or equivalent	An interactive lab class using VDC-based software. With faster, more accurate energy analysis of building design proposals, architects and designers can work with sustainability in mind earlier in the process, plan proactively, and build better and more efficient buildings.

GTC 401 **Autodesk Certification Test Prep** 4 credits Prerequisites: GTC 202 (WE) Corequisite: None 4 on-site hours or equivalent	This hands-on and seminar class provides valuable information pertinent to the student passing the Autodesk Certification Test for Autodesk Sustainable Building Design software. Course may be repeated.
GTC 402 **Sustainable Design Special Studies** 24 credits Prerequisites: IDC 202 (WE) Corequisite: None 24 on-site hours or equivalent	Special Studies. Targeted topics based on current software demand requirements in the Sustainable Design Technology / Energy Efficiency / Construction Industry. May be repeated.
GTC 404 **Focused Topics** 4 credits Prerequisites: GTC 203 (WE) Corequisite: None 4 on-site hours or equivalent	Customized, seminar, focused-topic classes pertinent at the mid- to high-level of expertise. Based on current software and industry-specific demand requirements in the Construction Industry. May be repeated.